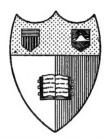
# THE ZIEGLER POLAR EXPEDITION 1903-1905

SCIENTIFIC RESULTS



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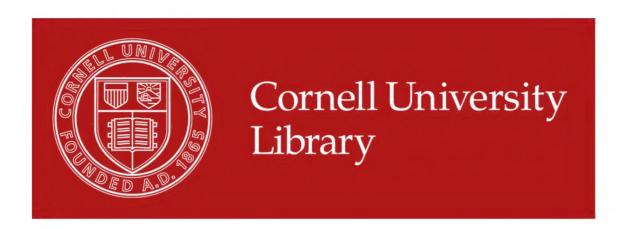
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# THE

# ZIEGLER POLAR EXPEDITION

1903-1905

ANTHONY FIALA, COMMANDER

# SCIENTIFIC RESULTS

OBTAINED UNDER THE DIRECTION OF

WILLIAM J. PETERS

REPRESENTATIVE OF THE NATIONAL GEOGRAPHIC SOCIETY

IN CHARGE OF SCIENTIFIC WORK

EDITED BY

JOHN A. FLEMING

PUBLISHED UNDER THE AUSPICES OF THE NATIONAL GEOGRAPHIC SOCIETY

BY THE

ESTATE OF WILLIAM ZIEGLER

WASHINGTON, D. C.

1907

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### INTRODUCTION

The scope of the scientific work of the Ziegler Polar Expedition\* executed during 1903 to 1905 under the adverse conditions peculiar to the Polar Regions may be summarized by the following section headings of the results reported upon in this volume:

- A-Magnetic Observations and Reductions;
- B-Notes and Sketches of the Auroræ Borealis;
- C-Meteorological Observations and Compilations;
- D-Tidal Observations and Reductions;
- E-Astronomic Observations and Reductions, and
- F-Map Construction and Survey Work.

Many other lines of desirable research were contemplated. The final selection, however, had to be governed by limitations of the Expedition, namely: the personnel could not be increased by the addition of experienced observers, and the time available for preparation and securing of instrumental outfits was all too short.

As only occasional assistance could be rendered them by the other members of the Expedition practically the entire burden of the scientific work was borne by the following staff of observers:

William J. Peters, Washington, D. C., Chief Scientist and Second in Command of the Expedition;

Russell W. Porter, Springfield, Vermont, First Assistant Scientist;

Robert R. Tafel, Philadelphia, Pennsylvania, Second Assistant Scientist;

Francis Long, Brooklyn, New York, Weather Observer, and

John Vedoe, Boston, Massachusetts, Assistant.

Owing to the loss of the ship, the building of winter quarters, and the almost constant sledging of coal and supplies until far into the winter, there was little time for other than the work of providing shelter and food and the preparations for the spring sledge journey northward. In addition to the scientific work, observers were called upon for other duties in these exigencies, besides taking part in the sledge journeys and assisting in the hauling of the instrument from Teplitz Bay to the relief ship. The amount of work accomplished in the consequently scant time available is sufficient evidence of the indefatigable and persistent prosecution of the

<sup>\*</sup>The popular narrative of the Expedition, "Fighting the Polar Ice," by Commander Fiala, has been published by Messrs. Doubleday, Page & Co. The volume, now in its second edition, contains considerable information about the handling of Siberian ponies and dogs, the best clothing and equipment for Arctic work, and some useful directions for Polar photography.—ED.

observations on the part of the scientific party. The difficulties encountered in the execution of work in the Polar Regions must be experienced in order to be properly appreciated. Storms are frequent in the winter, and observers, in going to and from observatories and instrument shelters, have often to crawl upon hands and knees in the face of high winds, whirling snow particles, low temperatures, and in the darkness of winter. The hearty and unselfish coöperation of all concerned is amply indicated by the execution of the great amount of detail work that is reported upon in this volume.

The natural features and natural history of the Franz Josef Archipelago could have been studied to advantage but for the lack of trained men, while the impossibility of transporting collections discouraged any systematic attempt to secure specimens. It might, however, be noted that coal was discovered by Mr. Anton Vedoe at Cape Flora in August, 1904, and was used during the following winter. The vein is a lignite of poor quality, which, however, burns freely. Brown coal was found by Mr. Russell Porter on Coalmine Island, Booth Channel, at a high elevation. Another vein containing fossils was discovered by Mr. Anton Vedoe at Cape Washington, the eastern extremity of Ziegler Island. Traces of coal were also found at Cape Richthofen, and without doubt other deposits would have been uncovered on the different islands had extended search been made. A detailed geological survey of the Archipelago would present some difficulties, owing to the fact that its islands are for the most part covered by a dome-shaped ice-cap extending to the sea. Strata are, however, exposed on Alger Island from base to summit, while the southern coast of the Archipelago presents many opportunities for the geologist.

No discoveries were made in the flora of the Islands during the two brief summers of work. Of the fauna, ptarmigan were seen for the first time in the Archipelago, and several were shot at Teplitz Bay in the summer of 1904, as also on Alger Island and at Rubini Rock. The nesting place of a pair of brants was discovered by Messrs. Stewart and John Vedoe at Camp Ziegler in the summer of 1905, and the eggs secured.

Mr. Miller, Assistant Ornithologist of the American Museum of Natural History, furnishes the following notes regarding the Ptarmigan:

"The pair of Ptarmigan collected by the Expedition on Alger Island, Franz Josef Land, in June, 1904, belong to a little-known species of considerable rarity in collections. This is the Spitzbergen or Hyperborean Ptarmigan, Lagopus hyperboreus, a very near relative of two well-known species, the Alpine Ptarmigan, L. mutus of the mountains of Europe, and the Rock Ptarmigan, L. rupestris of the Arctic regions of both hemispheres. From both these species it differs in larger size and the presence of a greater amount of white on the tail feathers, though in the latter respect there is considerable individual variation. In habits it does not differ from its near relatives.

"The Spitzbergen Ptarmigan was first described by Sundevall in 1838, and it is represented by a colored plate in Elliot's Monograph of the Tetraonidæ. It had not before been recorded outside of Spitzbergen, and from the fact that no Ptarmigan had previously been observed on Franz Josef Land it seems likely that the birds found there in 1904 had been blown over from Spitzbergen.

"The present pair of birds is an excellent illustration of the fact, already recorded, that the male of this species retains the white winter plumage considerably later in the spring than does the female. The male is wholly pure white, while the female, although taken at the same time, is in the brown plumage of summer."

The Expedition is under great obligation for generous assistance received from sources other than that of its lamented organizer and donor, Mr. William Ziegler of New York City. Mr. Ziegler was personally interested in every phase of the work and in the hope of carrying out some of his last wishes the executors of his estate have published this volume.

Acknowledgment is due Mr. William S. Champ, the rescuer of the party, whose opportune arrival at Cape Dillon saved both the members and records of the Expedition.

The National Geographic Society, through its former President, Dr. Alexander Graham Bell, and its present President, Dr. Willis L. Moore; its Vice-President, Henry Gannett; its Secretary, O. P. Austin, and its Editor, Gilbert H. Grosvenor, and through its members individually, has given encouragement and assistance in many ways, both in the initiation and completion of the work of the Expedition. It was to this organization that Mr. Ziegler extended the privilege of selecting the scientific leader and it was by the unanimous action of its Board of Managers that Mr. Peters was commissioned in this capacity. The scientific work accomplished conforms, in general, with the suggestions made by the Research Committee of this Society of which Professor G. K. Gilbert was chairman.

Grateful acknowledgments are due Professor Geelmuyden, Director of the Christiania Observatory, who loaned a Repsold Circle when at the last moment it appeared that one could not be obtained.

Mr. O. H. Tittmann, Superintendent of the United States Coast and Geodetic Survey, on the part of himself and the members of his Bureau, extended every possible help in the way of instruction and suggestion. Through his courtesy the Expedition had also the use of the instrumental outfit necessary for the execution of the magnetic work.

Dr. L. A. Bauer, Director of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, devised the plan of observation best suited to the limited instrumental outfit and conditions to be encountered, which plan experience proved successful. He has further suggested the general scheme of reduction of this portion of the observations.

Professor Willis L. Moore, Chief of the United States Weather Bureau, supplied a number of instruments for use in the meteorological observations.

General A. W. Greely, of the United States Army, extended assistance by many valuable suggestions as the result of his own wide experience in Polar work; he also arranged for the loan of some meteorological instruments from the United States Signal Corps.

The task of preparing the scientific results for publication was taken up by Mr. Peters during September, 1905, upon the return of the Expedition. He was unable to complete this labor personally owing to his association on January 1, 1906, with the Department of Terrestrial Magnetism of the Carnegie Institution of Washington as Commander of the Magnetic Survey Yacht. In his absence, through the courtesy of Dr. L. A. Bauer, Director, the burden of the completion of compilation, computation, editing, and publication of the results has been borne by Mr. J. A. Fleming, of the Department of Terrestrial Magnetism. The principal assistance in the great amount of detail work necessary has been rendered by Messrs. E. H. Bowen, C. C. Craft, W. B. Corse, and W. N. Ross.

ANTHONY FIALA

### ERRATA

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Page iii: Contents, 1st line, for "1" read "v".
Page iii: Contents, 2nd line, for "v" read "I".
       8: 11th last line, for "\frac{C}{\sin \mu}" read "\frac{C}{\sin u}".
Page 10: 2nd last line of 2nd last paragraph, take out comma after "6765y".
Page 13: last line of 2nd paragraph, for "3h 52m 37s (58° 09') E" read "3h 51m 56s (57°
             59') E''.
Page 116: tabulation of azimuths, for "108 oo 53" read "180 oo 53".
Page 297: station number 3, for "58 oo" read "57 59".
Page 303: 5th line, for "range of 32, while" read "range of 32, while".
Page 303: 6th line, for "viz., 97. 1" read "viz., 97.'1".
Page 320: last line, for "58 09" read "57 59".
Page 371: illustration numbers, for "4", "5", and "6", read "5", "6", and "4".
Page 371: under illustration list, for "478" read "477".
Page 375: longitude east of Greenwich, for "57° 56" read "57° 58".
Page 391: 1st line, for "attz" read "at Teplitz".
Page 392: 1st line, omit "Tepli".
Page 392: last line under columns Reading of Fahrenheit Thermometer, for "-15.5 | -15.2 |
             -23.8" read "-17.0 | -15.5 | -15.2".
Page 398: last line under columns Reading of Fahrenheit Thermometer, for "-207.6] -285.6"
             read "-276.0 | -207.6".
Page 418: 2nd last line, under column Mean of Extremes, for "+380.0" read "+380.9".
Page 449: longitude east of Greenwich, for "57° 56" read "57° 58".
Page 477: formula at head of tabulation, for "\Delta p = B_1 \sin(\theta - C_1) - B_2 \sin(\theta - C_2) - B_3
             \sin (3\theta - C_3)" read "\Delta p = B_1 \sin (\theta + C_1) + B_2 \sin (2\theta + C_2) + B_3 \sin (3\theta + C_3)".
Page 482: last line of 2nd last paragraph, for "figures 4 and 5" read "figures 5 and 6".
Page 495: 6th last line, for "57° 56' (3h 51m 43s)" read "57° 58' (3h 51m 53s)".
Page 543: longitude east of Greenwich, for "57° 56" read "57° 58".
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# SECTION A

# MAGNETIC OBSERVATIONS

AND

# REDUCTIONS

ву

### W. J. PETERS

In Charge of Scientific Work of the Expedition

AND

### J. A. FLEMING

Department Terrestrial Magnetism, Carnegie Institution of Washington

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# MAGNETIC OBSERVATIONS

### INTRODUCTION

### STATIONS

The principal and most extended magnetic observations of the expedition were made at Camp Abruzzi, Teplitz Bay, Rudolph Island, Franz Josef Archipelago. (This station is hereafter referred to simply as Teplitz Bay.) The observations here extended from September 28, 1903, to July 1, 1904.

A second series, covering the period June 26 to July 30, 1905, was made at Camp Ziegler, Alger Island, Franz Josef Archipelago, while waiting for the arrival of the relief ship. (This station is hereafter referred to simply as Alger Island.)

Besides these primary series of observations a number of determinations (generally only of declination) were made at other points. These were limited necessarily in scope by the various exigencies arising, the numerous other duties of the observers, and the severe physical conditions encountered.

The observations and reductions are herein taken up in the following order of their importance:

Observations at Teplitz Bay Observations at Alger Island Miscellaneous observations

### INSTRUMENTS

Through the courtesy of the Superintendent of the United States Coast and Geodetic Survey, Mr. O. H. Tittmann, the expedition had the use of the following instruments belonging to that Bureau:

Magnetometer No. IIII Dip circle No. 5676

These instruments had also been loaned to the Baldwin-Ziegler Expedition of 1901 to 1902. The magnetometer is one of the older magnetometers of the Coast and Geodetic Survey, but being large and heavy, with large magnets, was better adapted for work at a base station in a cold climate than the smaller and more portable instruments. Unfortunately it was discovered upon its return in 1905 that at some time, probably in the fall of 1899, six small steel tacks had been used to fasten the cloth hood to the end of the magnet-house. As will be seen later, these had no appreciable effect on the declination, but materially reduced the value of the horizontal intensity. The necessary correction on this account has been applied to the intensity results as related below.

The dip circle is of the usual pattern made for land observations by L. Casella of London, England.

In addition to these, the compass needle of a four-inch theodolite by Berger & Sons of Boston, U. S. A., and the plane-table needles were used for the determination of declination at several random stations.

The following compilation of constants for the primary magnetic outfit has been prepared by Mr. D. L. Hazard, of the United States Coast and Geodetic Survey, under the direction of the Chief of the Division of Terrestrial Magnetism of that Bureau.

### MAGNETOMETER CONSTANTS

A new brass deflection bar was supplied in April, 1903, to take the place of the old one not returned by the first Ziegler Expedition. It is a single straight bar 88 centimeters long. The *deflection distances*, as determined by the United States Bureau of Standards, are 30.019 centimeters and 40.025 centimeters at 28°.75 Centigrade.

The moment of inertia of intensity magnet No. 4 and stirrup has been determined several times by Mr. W. J. Peters, as follows:

Place	Date	No. of sets	$\log K_{20}$	Weight
Washington, D. C Cheltenham, Md Cheltenham, Md	Sept., 1905 Oct., 1905		2.45834 2.45812 2.45919 2.45864	2 I 2

The temperature coefficient of the intensity magnet has been determined by special observations at various times, as follows:

Place	Date	Observer	Mean temp. Cent.	q	No. of sets
Philadelphia San Francisco District of Columbia		J. S. Ruth R. A. Marr . J. B. Baylor .	20.0 20.1 15.0	.000252 230 192	4 6 2

From regular intensity observations values have been derived as follows:

Place		Date	Observer	Mean temp. Cent.	<b>q</b>	No. of observa- tions
Gaithersburg Washington Teplitz Bay Teplitz Bay Teplitz Bay Teplitz Bay Cheltenham Cheltenham	•	1900, JanApr	E. Smith W. Weinrich W. J. Peters	 + 2.2 + 14.8 - 10.1 - 10.7 - 12.2 + 0.8 + 24.3 + 15.6	.000353 351 334 247 200 201 416	12 9 12 12 13 13

The value q = 0.000192 was used in the computation of horizontal intensity at Teplitz Bay. Only the difference in temperature between oscillations and deflections is involved in this computation, and it rarely exceeded 2°. For this value of q a value of (t'-t) of 2° would affect the value of H only 1½ $\gamma$  (.0000125 C. G. S.), so it is evident that no revision of the computation is required. For the reduction of the values of the magnetic moment to the same temperature in order to obtain an estimate of the accuracy of the observations, a value of q = 0.00030 was adopted as the best value to be obtained from the above varying values. It is probable that q varies with the temperature, increasing as the temperature increases, but the observations are not sufficiently accurate to determine the relation.

The induction coefficient has been determined as follows:

Date	Observer	No. of sets	$\mu = mh$
April, 1900 Sept., 1905	J. B. Baylor W. J. Peters	. 8	5·39 5.87
Mean value adopted			5.63

The first distribution coefficient, P, has been determined from deflections at two distances as follows:

Place		Date	No. of sets	P	Weight
Cheltenham Cheltenham	• •	Sept., 1905 Oct., 1905	33 54 6 7	-2.30 0.00 -1.49 -2.08	2 4 1

The scale value of long magnet has been determined at various times, the recent values being:

Place	Date	Observer	Scale value
Gaithersburg, Md Washington, D. C Teplitz Bay Cheltenham, Md Mean value adop	1903–1904	W. J. Peters . W. J. Peters .	, 1.56 1.54 1.60 1.56

The constants adopted for magnet No. 4 of magnetometer No. IIII for the reduction of the Teplitz Bay observations are as follows:

Corrected distances on new brass deflection bar at o° Centigrade:

r	$\log r$	log ½ r3	log C
30.003 cm.	1.4771 <b>6</b>	4.13045	<u>5</u> .868 <b>8</b> 9
40.003 cm.	1.60209	4.50524	5.49441

For an increase in temperature of 1° Centigrade log C decreases 0.000025

One division of scale = 1'.57

Temperature coefficient: q=0.00030 for 1° Centigrade

Induction coefficient:  $\mu = 5.63$ ;

When 
$$r = 30 \text{ cm}$$
.  $\log \left(1 + \frac{2\mu}{r^3}\right) = 0.00018$   
= 40 cm. = 0.00008

Distribution coefficient: P = -1.00;

When 
$$r = 30$$
 cm.  $\log \left( r - \frac{P}{r^3} \right) = 0.00048$   
= 40 cm. = 0.00027

Moment of inertia:

Temp. Cent. 
$$\log \pi^2 K$$

-20° 3.45252
-10 262
0 273
+10 283
+20 294

These constants are adapted for the methods of computation in use by the Coast and Geodetic Survey, where the following formulæ are used in computing horizontal intensity:

$$mH = \frac{\pi^{3}K}{T^{2}}; \quad T^{2} = T^{2}\left[1 + \frac{h}{f}\right]\left[1 - (t' - t)q\right]\left[1 + \mu\frac{H}{m}\right];$$

$$\frac{H}{m} = \frac{C}{\sin\mu}; \quad C = \frac{2}{r^{3}\left(1 - \frac{P}{r^{2}}\right)\left(1 + \frac{2\mu}{r^{3}}\right)} \quad \text{and}$$

$$\log H = \frac{1}{2}\left(\log\frac{H}{m} + \log mH\right).$$

In these formulæ,

H = horizontal intensity

m =magnetic moment of magnet

T' = observed time of one oscillation corrected for rate of chronometer

h = angle through which magnet is turned by turning the torsion head through an angle t

t' = temperature of oscillations

t = temperature of deflections

u = deflection angle

The observations are arranged so that two sets of deflections come between two sets of oscillations, and t and t' do not usually differ very much. Consequently an erroneous value of q has little effect on the resulting value of horizontal intensity.

To determine the effect of the steel tacks on declinations as observed we have the following declination observations at the Cheltenham Magnetic Observatory:

### (a) Before removal of tacks, by W. J. Peters:

Date	Declination		
1905	west		
	0 /		
September 19	5 18.6		
September 20	20.0		
September 20	19.2		
September 21	18.7		
September 21	18.9		
September 22	19.8		
September 22	17.2		
Mean	5 18.9		

### (b) After removal of tacks, by W. F. Wallis:

Date		Declination
1905.		west
		0 /
October October	27 27	5 18.5 18.7
October	28	18.9
Mean		5 18.7

The results by the Observatory magnetometer No. 26 were:

Date	Declination
1905	west
	0 /
September October	5 18.7 5 18.9

All the above observations have been corrected for diurnal variation. They show that for declinations determined with Magnetometer No. IIII no correction is required.

To determine the effect of the steel tacks in horizontal intensity observations we have the following results at the Cheltenham Magnetic Observatory:

### (a) Before removal of tacks, by W. J. Peters:

Date 1905	Horizontal intensity
September 20 September 21 September 22	7 19809 20
Mean	19813

### (b) After removal of tacks, by W. F. Wallis:

Date 1905		Horizontal intensity
October October October October	25 27 27 28	7 20068 64 68 72
Mear	1	20068

Observations by Magnetometer No. 26 gave the following results:

Date	Horizontal
1905	intensity
September October	γ 20057 65
Mean	20061

Consequently values of horizontal intensity determined with Magnetometer No. IIII before the removal of the tacks must be increased by about  $250\gamma$ .

The presence of tacks would affect only the oscillations, since throughout deflections the suspended magnet and the tacks would be always in the same relative position. Instead of the ordinary formulæ, use should be made of the following to reduce observations of horizontal intensity made when the tacks were present:

$$m(H+X) = \frac{\pi^2 K}{T^2}$$
 and  $\frac{H}{m} = \frac{C}{\sin u}$ 

From the observations at Cheltenham in 1905, X was found to be very nearly  $-500\gamma$ . The application of this correction to the Teplitz Bay and Alger Island observations has been made as follows: The combination of the above equations in the usual way to eliminate m gives the value of  $\sqrt{H(H+X)}$ , from which H may be derived when X is known. At Teplitz Bay the average value of  $\sqrt{H(H+X)}$  was  $6510\gamma$ , from which  $H=6765\gamma$ , for  $X=-500\gamma$ , or  $H=\sqrt{H(H+X)}+255\gamma$ . The same correction applies for Alger Island.

The last column in the following table gives the mean value of  $\log m$  reduced to 20° Centigrade for various groups of observations and furnishes the means for comparing the magnetic moment of the intensity magnet at Teplitz Bay and Alger Island and in the United States:

Date	Place	Temp. Cent.	No. of obs'ns	log m 20
1900, JanApr 1900, Nov	Gaithersburg, Md Washington and Oregon . Teplitz Bay	+ 1.9 + 14.8 - 10.1 - 10.7 - 12.2 + 0.2 + 6.8 + 19.5	12 9 12 12 13 12 8	2.64062 2.64086 2.63832 2.63886 2.63947 2.64054 2.64093 2.64002

Observations in the United States before and after the instrument was used at Teplitz Bay show very little change in the magnetic moment of the intensity magnet. The observations at Teplitz Bay, however, indicate a gradual increase from beginning to end of the series. The cause of this change is not clear, as magnets are usually found to lose their strength with age. It is clearly not due to an erroneous temperature coefficient, as the mean temperatures of three of the groups are nearly the same. An error of .00087 in  $\log m$  corresponds to an error of one part in 500 in H, which at Teplitz Bay would be only  $13 \gamma$ .

### DIP CIRCLE CONSTANTS

So little time was available between the return of the instrument by the first Ziegler Expedition and its reissue to the second, that no extended comparisons could be attempted. Observations were made at the Coast Survey Office in Washington as follows on May 11, 1903:

The normal dip for the station was 69° 56′.0 N. Observations were also made in two planes making an angle of 60° with the magnetic meridian, so that the needles rested upon nearly the same parts of the pivots as at Teplitz Bay. These observations of May 23, 1903, resulted as follows:

Upon the return of the dip circle in the autumn of 1905 observations were made at the Cheltenham Magnetic Observatory as follows:

### (a) In the magnetic meridian:

Date 19 <b>0</b> 5	Observer		Needle No. 3	Needle No. 4
			0 ,	0 /
September 20	W. J. Peters		70 29.6 N	70 28.7 N
September 21	W. J. Peters		29.9	35.2
September 22	W. J. Peters		31.2	30.2
September 28	W. J. Peters		29.4	33.6
October 3	S. G. Townshend		28.3	30.9
October 10	S. G. Townshend		32.1	31.3
October 31	S. G. Townshend		33-3	34.1
Means			70 30.54 N	70 32.00 N

(b	) :	In	planes	making	an	angle of	60°	with	the	magnetic	meridian	:
----	-----	----	--------	--------	----	----------	-----	------	-----	----------	----------	---

Date		Observ	ed dip	Reduced dip	
1905	Observer	Needle No. 3	Needle No. 4	Needle No. 3	Needle No. 4
		0 /	0 /	0 /	0 /
December 15	W. F. Wallis	79 59.9 N	79 56.6 N	70 34.3 N	70 28.2 N
December 15	W. F. Wallis	58.1	58.0	31.0	30.8
December 15	W. F. Wallis	63.0	61.7	39.9	37.5
December 15	W. F. Wallis	61.1	58.9	36.4	32.4
December 16	W. F. Wallis	61.9	59.6	38.0	33.7
December 16	W. F. Wallis	59.2	57.8	33.0	30.3
Means				70 35.4 N	70 32.2 N

The normal dip for this station is 70° 26'.4 N, as derived from the following observations with earth inductor:

Date 1905	Dip		
September 18 September 25 October 2 October 9 October 17 October 23 October 30	70 24.7 N 26 4 26.7 26.3 27.3 25.9 27.4		
Mean	70 26.4 N		

These observations give the following corrections to the dip needles of dip circle No. 5676:

Year	Meridian o	bservations	60° out of meridian		
	Needle No. 3	Needle No. 4	Needle No. 3	Needle No. 4	
1903 1905	+0'.2 -4.1	o'.3 5.6	+ 5'.8 - 9.0	$+\frac{2'.4}{-5.8}$	

In view of the change indicated between 1903 and 1905 and the probability that the correction required becomes less as the dip increases, it is deemed best to apply no correction to the dip observations.

A B.GRAHAM CO LITH WASH, DC

### OBSERVATIONS AT TEPLITZ BAY

### SITE OF OBSERVATORY

The magnetic station occupied by the Italian Expedition at Teplitz Bay was examined with a view to reoccupying it, but at the time it was found impossible to accurately identify the point; besides it was on the ice-foot, subject to overflow during summer thaws and to possible movement. Under the circumstances it seemed advisable to select another location which could be more conveniently recovered in the future. It was also intended to make observations in a tent at a point as near to the Italian station as could be fixed from data appearing in their publications, but owing to the lateness of the season and the hurried debarkation, which required the help of all, this plan could not be carried out during the period of daylight in 1903 and was, therefore, postponed to the following spring.

Six or seven points were examined. All of these, which were fairly well distributed over the small area free from ice, gave indications of local magnetic attraction, varying from 40' to 2°. The exposed surface is basalt and contains considerable disseminated magnetite in minute grains. The point finally selected was the one which appeared to be the least affected and at the same time reasonably free from the destructive effect of ice. It is on the shore of Teplitz Bay about 6 feet above sea level and 6 meters from the water edge, in latitude 81° 47′ 30″ N and longitude 3h 52m 37s (58° 09′) E.

### DESCRIPTION OF MAGNETIC OBSERVATORY

The observatory is 4.56 meters long, 1.82 meter wide, 1.82 meter to the eaves, and 2.45 meters to the ridge. Its length is parallel to the magnetic prime vertical and allows a distance of 2.1 meters between the magnetometer and dip circle piers.

The structure consists of a framework of wood. The floor, roof, and east and west sides are boarded. The north and south walls are each made of two layers of canvas, the outer layer extending over the board roof. The joints and fastenings are made by dovetailing, mortising, or by large brass screws. The canvas is held by copper tacks and brass nails, or by wooden cleats held in place by brass screws. Snow was banked against the walls up to the eaves and subsequent drifts finally buried the observatory in an even field. A shelf extends north and south across the middle of the room and serves both for a brace and for a table. Two lights were used on this shelf—a brass bull's-eye lantern and a copper kerosene lamp. Their positions are shown in the plan which is drawn to scale. The bull's-eye lantern was used for illuminating the scale and rested on a small, wooden tripod stand with an adjustable wooden footscrew. Two large windows—one in the east wall and one in the west wall—admitted light on the return of day. The iron nails used in the window frames were all removed.

A copper stove with copper stack was installed with a view to heating the room, if in extreme cold weather it became necessary to put in new fibers or do any other work requiring delicate manipulation. It was used but twice. The lamps and stove were each brought within 30 centimeters of the magnetometer, revolved and carried around the magnetometer without producing any noticeable effect.

The original carrying magnetometer case was placed under the east window after adjustingpins, screw-drivers, and other magnetic articles and material were removed. Magnet No. 4, used in declination observations, was stored in this case when not in use.

There were two brass hooks on the east wall for garments and two on the south wall to hold the deflection bar in its case.

The timepiece was a watch\* regulated approximately to local time beginning at midnight. It hung on a small brass hook screwed into the middle stud of the south wall.

The piers are of pine, 35 centimeters in diameter. That for the magnetometer is 2.3 meters long and is sunk 0.8 meter in coarse, frozen gravel, leaving 1.25 meter above the floor. The pier for the dip circle is 2.15 meters long, is 0.8 meter under the surface, and 1.10 meter above the floor. These piers are marked M and D respectively on the west side near the top-

There is a vestibule 0.75 meter by 1.3 meter by 1.25 meter, with doors opening into the observatory and outwards into the open air.

In cold weather considerable trouble was experienced from the collection of ice on the mirror, eyepiece, reading glass, and circle. The roof and walls of the observatory became studded with small ice crystals, the incessant fall of which covered the instrument and necessitated cleaning every day or two.

During the construction of the observatory a memorandum was kept of every iron tool used and its removal was assured before magnetic work began. This precaution was necessary because of the frequent snowfalls. The building is absolutely non-magnetic and the only iron near by was the small adjusting pin, used to reduce the amplitude of the oscillations after the magnet was disturbed. This pin was placed vertically on pier D beyond the sphere of influence and has since been brought away.

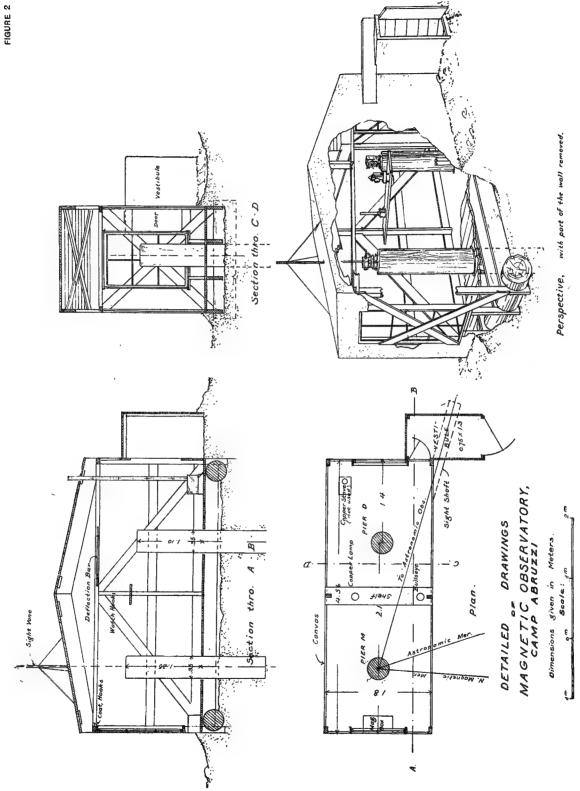
In the spring of 1904 a bear attempted to break into the observatory while Mr. John Vedoe was observing. He failed to drive it away by noise or voice and was liberated from the embarrassing situation by finally arousing the pack dogs, whose barkings brought aid from the house. As a safeguard against recurrence of such visits a revolver was afterward placed at the far end of the sight shaft 4.5 meters distant from the magnetometer. On March 1, 1904, this was taken away and instead a rifle was left outside standing against magnet box No. 1.

### PERMANENCE OF SITE AND PRESERVATION OF PIERS

Judging from the condition in which the living quarters of the Italian Expedition were found, it is to be concluded that the observatory with its piers may stand for a long time, but snow will collect about the building and hold a small supply of water coming from the summer thaws until it freezes again. Ice, accumulating annually in this manner, may gradually rise in the hut to the top of the piers. The distance and azimuth of the astronomic brick pier will, however, furnish a means of recovering the precise point, should it be buried in a future field of ice. The astronomic observatory is so situated as to be swept clear of snow by the strong winds, unless a decided and permanent change in the prevailing direction should occur.

On the cessation of observations (July 1, 1904) the observatory was left undisturbed with every article in place excepting the instruments.

<sup>\*</sup> In the tabulations of results the times by watch are listed as "Chronometer time."



### DECLINATION

### AZIMUTH MARKS

Azimuth Mark No. 1 was the anemometer staff permanently fixed to the northwest corner of the astronomic observatory. It was used at first because of its early availability during daylight of October, 1903. Afterwards a hole 3 inches in diameter was cut through the east wall of this observatory. A cross radiating from this hole was painted on the wall to be used in daylight and a bull's eye lantern seen through the hole was used at night. The center of the hole was on the line of sight from the magnetometer telescope to the telescope of the Repsold circle in the astronomic observatory when these two were directed towards each other and it is designated Azimuth Mark No. 2. The distance is approximately 288 meters. It should be noted that a distant mark is seldom available at Teplitz Bay on account of darkness or thick weather.

The azimuth of the magnetometer at the Repsold circle was first determined by measuring the angle between the magnetometer and the south pointing of the vertical thread as determined from star transit on December 2 and December 18, 1903, and January 27, 1904. It was again determined by measuring the same angle as determined from a combination of the transits of  $\eta$  Cephei at lower culmination and 1 H. Draconis at upper culmination on March 17, 1904. Finally the angle between the astronomic meridian mark (6440 meters distant) and the magnetometer was measured July 1, 1904, at the end of the season's work. It was measured on April 11, 1905, without any sensible difference in the results.

These observations by Mr. R. W. Porter are given in the astronomic notes; the result of of four days' observations are tabulated below:

Date	Method -	Resulting azimuth of vertical thread Repsold circle
December 2, 1903 December 18, 1903 January 27, 1904 February 12, 1904	Star transits for time . Star transits for time . Star transits for time . Combining circumpolar transits at U. C. and L. C.	304 OI 20 40 44 32
meters, gives addi	the magnetometer, 287.82 tive	304 01 34 108 00 53 124 02.5

This is the value adopted and used in the final reduction of the magnetic declination observations.

For a rough check and to test the four-inch Berger & Sons' theodolities under existing unfavorable trigonometric and meteorologic conditions, some azimuths were obtained from solar altitudes with one of these instruments by Mr. W. J. Peters.

The four-inch theodolite in these observations was placed about 36 meters south of the magnetometer and exactly on a line connecting the magnetometer with the astronomic meridian mark (approximately 6430 meters distant). Both circles were graduated to read by two verniers to single minutes.

The instrument was reversed and opposite limbs of the sun were symmetrically observed. The means of each set of four pointings with the corresponding approximate local civil times,

reckoned from midnight, and the deduced azimuth of the mark are given in the following tabulation in deriving which the value for latitude used was 81° 47.'5 N:

Date 1904	Local civil time	Altitude	Angle between sun and mark	Temp. C.	Resulting azimuth
June 3 June 3 June 6 June 6 June 6 June 6 June 7 June 7	h m s 16 25 07.4 17 18 17.8 6 18 36.4 6 27 34.7 17 34 22.8 17 39 58.0 6 32 32.2 6 40 28.2	25 20.62 23 30.12 23 04.67 23 24.00 23 19.94 23 07.38 23 39.50 23 36.38	57 59.6 81 21.1 90 51.6 88 36.4 85 00.1 86 36.4 87 32.8 85 33.3	- 3.5 - 3.5 - 2.9 - 2.9 - 3.8 - 3.8 - 0.2 - 0.2	o ,  2 14.2 14.7 13.9 12.2 13.0 17.1 14.0 12.1
l N	Mean				2 13.9

The angle at pier M between this astronomic meridian mark and azimuth mark No. 2, measured with the circle of the magnetometer, was 121° 49′.3; whence the azimuth of mark No. 2 is 124° 03.′2, a determination with the small instrument which agrees within one minute of the Repsold circle determination.

By differentiating the spherical triangle and substituting values of the latitude, declinations and altitudes, and azimuths for the first observations of June 3 and June 6, A. M., there will result

$$\frac{dA}{dh} = 7.5 \text{ and } 7.0$$

in which dA and dh are the mutually dependent changes in the azimuth and altitude, respectively; from which we might expect an error in the azimuths about seven times greater than an assumed error in the altitudes. Presumably the altitude could not be measured with these instruments closer than one-half minute of arc so that the above results are within the limits to be expected from this uncertainty.

### PIER M AND ITS TWIST

The magnetometer was mounted on the pine pier M which is, as stated, sunk 0.8 meter among large boulders and gravel. It was noticed while sinking the holes for the piers that the whole morainic mass of boulders and gravel was frozen together. The pier is not in contact with the floor and is quite firmly imbedded.

The horizontal circle of magnetometer No. IIII is rigidly connected with the base which receives the footscrews and, therefore, has no independent motion. As the instrument was left mounted and undisturbed after each day's observations, the various pointings on the azimuth mark taken from time to time should presumably have given the same circle readings. Very soon after the beginning of the winter's work it was noticed that these readings began to vary. The striding level, as well as the stationary level, was carefully examined at each pointing of the mark. When the circle readings were about their maximum and minimum the telescope was reversed in its Y's without disclosing any appreciable collimation error. Readings were taken when the temperature of the hut, practically the same as the outside, had reached its lowest point, to see if any of the effect was due to the passage of the line of sight from the warmer air of the hut to the colder air outside.

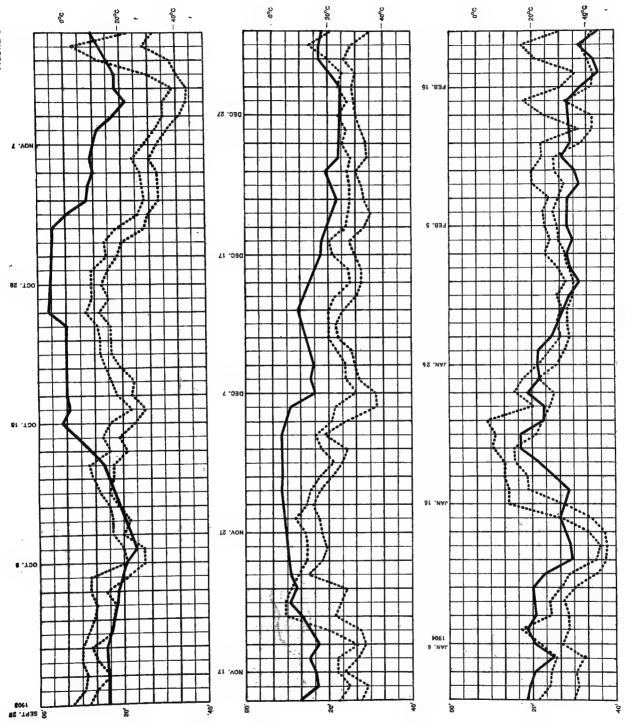


DIAGRAM SHOWING VARIATION IN MARK READING WITH CHANGES IN TEMPERATURE AT TEPLITZ BAY
FROM SEPTEMBER 28, 1903, TO FEBRUARY 19, 1904
(Mark readings shown by full line; maximum and minimum temperatures by dotted lines. Increasing ordinate up indicates
decrease in mark reading and increase in temperature.)



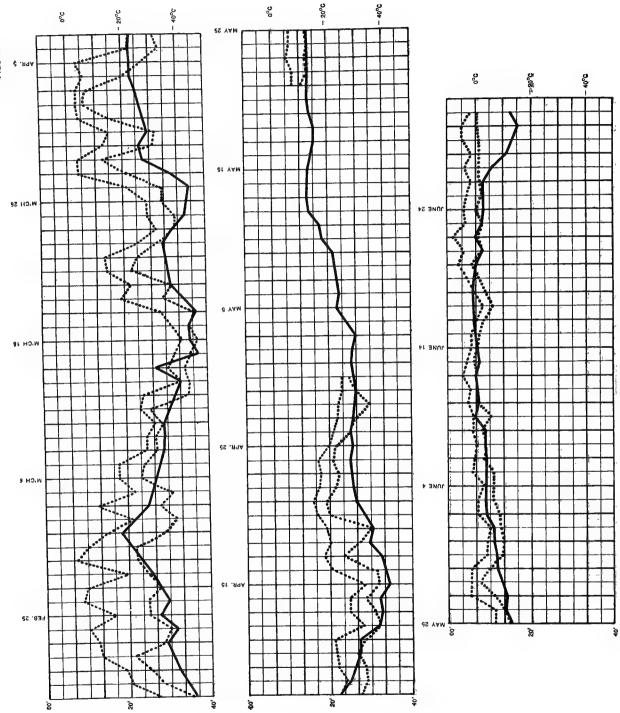


DIAGRAM SHOWING VARIATION IN MARK READING WITH CHANGES IN TEMPERATURE AT TEPLITZ BAY
FROM FEBRUARY 20, 1904, TO JULY 1, 1904
(Mark readings shown by full line; maximum and minimum temperatures by dotted lines. Increasing ordinate up indicates
decrease in temperature.)

That these changes in the circle reading cannot be ascribed to any motion of translation of the pier M or the azimuth mark is evident from the small range in the azimuth determinations and the fact that the readings after having reached a maximum returned to near the same minimum. In the azimuth observations the Repsold circle was always pointed on, and bisected the illuminated object glass of the magnetometer after this had been directed towards the astronomic instrument.

These readings, however, appear to be functions of the temperature and the close agreement between the changes of temperature and changes of twist is graphically shown by curves in the plate opposite on which the dates are represented by abscissæ and the temperatures and pointings on the mark are shown as ordinates.

## PROGRAM AND METHODS OF OBSERVING

A program for declination readings was arranged by Dr. L. A. Bauer. With a view to obtain a closed series every week, the observations were made to extend over four hours, these periods being selected daily in succession according to the following detailed program, in civil time, counting through 24 hours from midnight:

D1	Observ	vations	7	Magnet
Day of week	From	То	Duration	scale
	h	h	h	
Monday	8	12 (noon)	4	Erect
Tuesday	12 (noon)	16	4	Inverted
Wednesday	0	24 (midnight)	24	Erect
Thursday	16	20	4	Inverted
Friday	20	24 (midnight)	4	Erect
Sunday	0	4	4	Inverted
Sunday	4	8	4	Erect
Monday	8	12 (noon)	4	Inverted
Tuesday	12 (noon)	16	4	Erect
Wednesday	0	24 (midnight)	24	Inverted
Thursday	16	20	4	Erect
etc.	etc.	etc.	etc.	etc.

In the beginning observers were changed, possibly more frequently than might have been desired. Later, when they had become accustomed to the routine, the cold, and privations which longer hours demanded, they willingly agreed to observe throughout 8 hours without change. When observers changed during observations they observed alternately for 10 minutes or more. The observer is indicated by his initials, as follows:

W. J. P., . . . W. J. Peters
R. R. T., . . . R. R. Tafel
J. V., . . . John Vedoe
R. W. P., . . . Russell Porter
F. L., . . . Francis Long
H. H. N., . . . Dr. Newcomb

N. M. M. was an abbreviation used to denote that the incoming observer had been asked previously to his first observation if he had divested himself of all magnetic materials. It appears at every change of observers in the original record, but is left out of the published notes for lack of space.

Observations were made at every two minutes. Sometimes one would be accidentally taken later than planned, in which case the tenths of a minute were noted.

The time of one oscillation being about 10 seconds, the observer commenced at 10 seconds of the recorded time, and noted the scale reading at the end of the oscillation then occurring, whether left or right; then the opposite extreme reading of the following oscillation. The recorded time is, therefore, within 5 seconds of the time corresponding to the mean reading.

During magnetic disturbances the ten-second oscillation sometimes disappeared and the scale appeared motionless for ten seconds or more. This is indicated in the original by the remark "Quiescent," but in the published record it is shown by identical readings, scale right and left. Again during these disturbances the scale occasionally moved steadily and slowly (recorded "slowly decreasing" or "slowly increasing") for 10 or even 60 seconds, and the record then shows the division that transited at the recorded time. Where the note "slowly increasing" appears in record, the reading, as tabulated on pages 41 et seq., is followed by the letter a, thus: 25.8a; where the note "slowly decreasing" appears in record, the tabulated reading is followed by the letter b, thus: 25.8b. As the observer had to glance at the watch in this case, the observation may be in error 5 seconds of time.

### Axis Observations

Observations for axis were made immediately before and after the declination observation for the day, unless the disturbances were too great. Magnet No. 4, used in declination readings, is cylindrical, requiring some two minutes to place the scale truly horizontal. It was considered advisable to make these axis observations as rapidly as possible, owing to the fact that the changes in declination do not, in general, vary uniformly with the time, even over the short interval (sixteen minutes) usually consumed in making axis observations (United States Coast and Geodetic Survey method). Accordingly in the three positions of the scale E, I, E, or I, E, I, the ends of consecutive oscillations were read as soon as the magnet was made nearly stationary instead of waiting for consecutive two-minute periods. Even then some very discordant results were obtained, and these have been arbitrarily rejected, and the mean of the remaining results for the week ending Sunday 8 A. M. are the values used in the final reductions. The values adopted at Teplitz Bay are shown in the following tabulation:

Week ending at 8 A. M. Sunday	Number of determina- tions	Axis	Week ending at 8 A. M. Sunday	Number of determinations	Axis
1903 October 4 October 11 October 18 October 25 November 1 November 15 November 22 November 29 December 6 December 13 December 20 December 27 1904 January 3 January 10 January 17 January 24 January 31 February 7 February 14	6 7 6 5 8 8 3 6 9 7 4 8 5 7 8 6 8 5 7 8 6 8 5 7	d 53.12 52.88 53.15 53.52 52.97 53.25 52.62 53.36 53.69 53.40 53.37 53.43 53.32 53.82 53.82 53.47 53.64 53.69	1904 February 21 February 28 March 6 March 13 March 20 March 27 April 3 April 10 April 17 April 24 May 1 May 8 May 15 May 22 May 29 June 5 June 12 June 19 June 26 July 1	4 6 5 8 8 5 5 5 5 8 7 10 11 9 11 10 9	d 53.36 53.74 53.41 52.90 53.35 53.42 53.29 53.28 53.07 53.20 53.38 53.27 53.65 53.69 53.71 53.50 53.45 53.44 53.45 53.81

## Torsion

Two fibers were used until Thursday, October 1, 1903, when they were found broken. After this four fibers were used. New fibers were inserted March 27, 28, and 29, 1904, the last serving through the remainder of the observations. Several attempts to use two fibers alone failed, they being only sufficiently strong to suspend the torsion weight for but part of a day.

Observations for torsion were made before and after regular declination readings, excepting when the disturbances interfered. After the day's work the torsion weight was substituted for the magnet, the plane of detorsion was determined and the torsion weight was left suspended until the next observations. When torsion had accumulated during observations and made necessary a shift of torsion head, the effect of 90° of torsion is noted in the footnotes to tabulations.

#### RECORDS

The chronological program arranged by Dr. L. A. Bauer could not be adhered to as closely as might have been desired during the fall and winter, owing to prevailing strong winds, when snow drifted to such an extent as to make travel to and from the observatory both difficult and dangerous. Under these conditions two men holding on to a leading line would struggle backwards to the observatory and dig out the entrance. This was filled again in a few moments, imprisoning the observer until again liberated by outside aid.

In order to economize space, the original notes have been tabulated as far as possible, with the corresponding results. On pages 20 to 26 will be found the readings of the azimuth mark under the headings Azimuth Mark No. 2 and Azimuth Mark No. 1. In the column headed Pointing will be found the letters B, A, which indicate respectively that the reading of the azimuth mark has been taken before or after the declination observations of the day. Where both letters appear the mean is published; when none is given the azimuth marks were invisible on account of drifting snow or dense fog.

The readings corresponding to the position of the telescope when pointed on the magnet are given under the heading Circle reading of magnet. They are the mean of the readings taken before, after, and sometimes during the period of declination observations. When the telescope with the circle has been shifted during declination observation the values are omitted in this table, and will be found on pages 26 to 31, with corresponding time. This last mentioned table therefore shows when disturbances, so great as to require a shifting of the horizontal circle, have occurred. The times of observation first following these shiftings of horizontal circle in any day's work are also indicated in tabular summary of two-minute declinations by asterisks (\*).

The circle reading of the true south is given for each day on which declination observations have been made. Where there is no corresponding reading on an azimuth mark it has been found by interpolating according to the dates and without considering the temperature effect.

In the temperature columns will be found the maximum and the minimum thermometer readings for the day, converted to Centigrade scale from the regular meteorologic record.

The reductions of the individual two-minute readings for declination are tabulated on pages 41 et seq. To make this tabulation quite clear the following specimen computation for November 1, 1903, is given:

The scale readings for 5h oom are (see page 71) left  $59^d.8$ , right  $65^d.3$ , the mean of which is  $62^d.5$ .

The axis for week ending November 1, 1903 (see page 18), is  $53^d$ .0, whence the difference, scale minus axis (S-A),  $9^d$ .5, which converted into arc (see constants, page 8) is + 14'.9.

The circle reading is found on page 27, under "Circle reading of magnet," for corresponding time 67° 07'.3, whence magnetic south meridian reads 67° 22'.2.

The true south meridian for the corresponding day and time is (see page 21) 42° 09'.4.

Therefore the east declination, uncorrected for any change in the plane of detorsion, is 25° 12'.8.

But the plane of detorsion has shifted 29° in the direction of increasing azimuths in 9h 49m (see bottom page 71) and the effect of 90° of torsion as observed is 24'.5 (see bottom page 71), which gives by interpolation according to time a correction of —4'.4, whence the final value of last magnetic declination as observed at 5h oom on November 1, 1903, is 25° 08'.4.

Note that in the tabulation of reductions of declination observations the results are entered to the nearest minute; in those cases where the figure in the tenths of a minute is 5 the rule is followed to take the nearest even minute as the result to be tabulated.

TABULATIONS OF RECORDS

Circle readings of azimuth marks, magnet, and true south at Teplitz Bay

Point-	Date	Azimuth mark	Azimuth mark No. 1, anemometer	Circle reading of		Cent. temperature		
			staff	magnet	true south	Max.	Min.	
В А В А	1903 Sept. 28 29 30		66 25.5 166 25.2	65 05.0 64 52.3	0 , 42 17.4 42 17.2 42 17.1	- 2.1 - 5.6 - 6.7	~ 7.9 — 9.6 — 14.6	
в.	Oct. 1		 166 25.0	63 55.5 64 30.1	42 17.0 42 16.9	- 5.4 - 5.2	— 10.6 — 9.0	
	3		100 23.0	04 30.1	42 17.3	— 7.0	— 9.0 — 15.2	
Α.	4		166 25.8		42 17.7	- 9.0	<del></del> 16.2	
Α.	5		166 26.5	64 31.5	42 18.4	10.0	<b>—</b> 17.4	
в.	6		166 26.5	65 10.0	42 18.4	8.2	— 12.6	
	7				42 19.0	— 8 і	20.7	
в.	8		166 27.7		42 19.6	- 20.7	- 27.3	
В.	9		166 29.4	64 51.7	42 21.3	<b>— 20.0</b>	26 8	
	10		• • •		42 20.4	— 16.o	- 20.2	
 А.	II	766 01 5			42 19.5	15.7	21.8	
В.	I 2 I 3	166 21.5 166 20.9	166 26.7	65 05.0	42 18.8	- 15.1	— 18.5	
ъ.	14	100 20.9			42 18.4	10.6	— 15.1	
А.	15	166 19.2		64 47.0	42 17.5	- 9.0	— I5.7	
	16			04 47.0	42 16.7 42 14.7	8.3	- 15.7	
	17				42 14.7	— 15.5 — 12.6	20.7 18.0	
В.	18	166 13.3			42 10.8	- 15.1	16.0 24.5	
$\mathbf{A}$	19	166 14.3		64 35.7	42 10.0	22.9	— 24·5 — 27.9	
Α.	20	166 13.9		64 41.7	42 11.4	<u>- 18.2</u>	-27.9	
в.	21	166 14.0		64 40.0	42 11.5	<b>—</b> 16.2	23.8	
	22	1	·	66 16.8	42 11.0	- 13.7	- 19.0	

Circle readings of azimuth marks, magnet, and true south at Teplitz Bay-Continued

Point-	Date	Azimuth mark No. 2, cross	Azimuth mark No. 1, anemometer	Circle reading of			empera- re
			staff	magnet	true south	Max.	Min.
	1903	0 /	0 /	0 ,	0 /	0	
	Oct. 23				42 10.5	— 12.3	<del></del> 16.0
 D A	24	-66			42 10.0	- 11.8	<b>— 15.5</b>
ВА А.	25 26	166 12.0 166 11.6		64 43.1	42 09.5	10.6	— 15.7 — 11.4
A .	27	166 11.5		64 31.3	42 09.1 42 09.0	— 7.0 — 9.0	— 11.4 — 15.1
	28			65 02.1	42 09.2	- 8.4	— 12.0
Α.	29	166 11.8		64 31.8	42 09.3	9.0	— I4.3
ВА	30	166 12.0	:	64 35.7	42 09.5	14.3	— 18.o
	31		• • •			— I3.5	. — 19.6
ВА	Nov. 1	166 11.9			42 09.4	— 17. <sub>7</sub>	: — 27.9
А. В А	2	166 14.0		66 -	42 11.5	— 25.6	29.0
ВА	3	166 16.8 166 17.1	• • •	64 56.5	42 14.3 42 14.6	-27.8 $-27.3$	— 33·4 — 22·2
BA	5	166 17.7		64 53.4	42 14.0	-26.4	— 33.2 — 32.9
A .	6	166 17.5		• • •	42 15.0	- 24.0	— <b>29.9</b>
	7					— 28.o	-32.3
ВА	8	166 18.5			42 16.0	— 31.7	— <u>3</u> 6.0
ВА	9	166 20.8		65 09.0	42 18.3	<del>- 35.0</del>	— 41.1
BA	10	166 22.6		64 42.7	42 20.1	<del>- 35.0</del>	<del> 43.5</del>
ВА ВА	11	166 21.2 166 21.2			42 18.7	38.8	43.9
<b>В</b> А.	13	100 21.2			42 18.7 42 17.6	29.0 12.9	-39.7 $-37.7$
: :	14				42 16.4	— 2.5	28.4
В.	15	166 17.8			42 15.3	<del></del>	31.7
Α.	16	166 20.2		64 34.5	42 17.7	27.5	— <u>34.6</u>
ВА	17	166 19.9			42 17.4	- 22.9	30.4
ВА	18	166 18.8			42 16.4	- 29.6	36.8
ВА	19	166 20.5			42 18.0	29.6	— 33·3
в.	20 21	166 19.2 166 18.0			42 16.7 42 15.5	20.2	-31.7 $-22.2$
В.	22	166 16.3			42 13.8	— 3·7 — 4·4	-26.8
В.	23	166 17.2		65 10.4	42 14.7	- 6.7	- 26.8
В.	24	166 16.3		64 21.3	42 13.8	— 6. <sub>7</sub>	— I2.4
	25				42 13.6	- 12.4	18.0
	26	· • •		64 45.5	42 13.4	<b>— 12.3</b>	— 19.3
	27				42 13.2	— II.3	0,81 —
	28			• • •	42 13.0	7.9	— 17.0
вÀ	29	166 15.1		64 52.3	42 12.8 42 12.6	- 11.8	— 14.8 — 16.8
BA	30	100 15.1	• • •	V4 J2.3	42 12.0	12.9	; 10.8
	Dec. 1	166 15.2		64 44.5	42 12.7	<b>—</b> 16.3	<u> </u>
ВА	2	166 15.1	• • •		42 12.6	2I.2	- 25.1
BA	3	166 15 1		65 13.7	42 12.6	- 16.8	<u></u> 26.8
ВА	4	166 15.2			42 12.7	— I5.3	- 18.0
BA	5	166 16.3	• • •	• • •	42 13.8	— 21.2 — 22.1	-26.3 $-37.7$
	I.	166 19.8		64 56.3	42 17.3	— 30.0	
<b>A</b> .	7	100 19.0	• • •	04 JU.J	#* 1/.3	30.0	-37.2

Circle readings of azimuth marks, magnet, and true south at Teplitz Bay-Continued

Point-	Date	Azimuth mark No. 2, cross	Azimuth mark No. 1, anemometer		Circle reading	Cent. te	
5		1101 2, 01000	staff	magnet	true south	Max.	Min.
	1903	0 /	0 /	0 /	۰,	۰	•
Α.	Dec. 8	166 19.3		64 47.7	42 16.8	<u> — 26.0                                    </u>	— 31.o
в.	9	166 19.9			42 17.4	26.0	— <b>29.</b> 5
	10			64 51.7	42 16.8	- 23.0	- 29.0
	11			64 50.7	42 16.2 42 15.6	— 19.8 — 20.0	23.0 23.0
 A .	13	166 17.5			42 15.0	— 20.0 — 20.0	<u> 26.0</u>
	14			65 14.3	42 15.8	22.5	30.5
	15			65 28.7	42 16.6	- 27.9	— 31.9
<u>.</u> .	16				42 17.5	<del> 26.9</del>	— 31.9
BA	17	166 20.8		64 56.4	42 18.3	<b>— 21.4</b>	<b>—</b> 29.5
вА	18	166 20.9		64 53.5	42 18.4	— 20.6 — 26.5	— 28. I
	19 20				42 I9.2 42 I9.9	$\frac{-20.5}{-27.3}$	-33.3 $-35.5$
À.	21	166 23.2		65 05.0	42 20.7	-28.4	-32.8
	22			64 45.0	42 19.8	- 27.9	<b>—</b> 31.8
ВА	23	166 21.4		65 11.1	42 18.9	— 26.7	<del></del> 30.0
ВА	24	166 23.4		64 50.7	42 20.9	— 28. I	<del> 34.4</del>
	25 26					- 25.5	<b>—</b> 33.9
	27					- 26.2 - 24.5	— 32.0 — 30.1
	28					26.8	29.5
ВА	29	166 23.9		65 14.9	42 21.4	- 24.0	<b>— 29.0</b>
ВА	30	166 22.1			42 19.6	<b>— 25.6</b>	29.8
Α.	31	166 20.8			42 18.3	- 20.0	25.7
АВ	1904	-66					
	Jan. 1	166 20.7			42 18.2	12.5	— 27.9
вA	3	166 21.5			42 19.0	21.4 25.8	- 35.0 - 36.4
$\mathbf{B} \mathbf{A}$	4	166 22.2		65 20.9	42 19.7	<del></del>	-35.5
BA	5	166 23.4		64 38.1	42 20.9	- 28.3	-38.8
BA	6	166 22.0			42 19.5	- 22.3	- 30.4
В А А .	7 8	166 21.0		65 01.9	42 18.5	<b>— 15.7</b>	32.9
	9	166 22.3		65 04.7	42 19.8	27.I	— 32.8
ВА	10	166 22.1			42 19.6	— 26.0 — 30.0	-31.1 $-35.0$
в.	11	166 23.5			42 21.0	33.3	- 43·3
ВА	12	166 27.7		64 54.6	42 25.2	-42.8	-46.1
ВА	13	166 27.5			42 25.0	- 44.4	46.7
ВА ВА	14	166 26.7		65 23.2	42 24.2	- 40.0	45.6
	15	166 26.1		64 45.0	42 23.6	<del> 30.8</del>	<b>41.2</b>
ВÀ	17	166 23.2			42 20 7	— II.I	31.1 18.5
Α.	18	166 21,0		64 59.7	42 20.7	— II.I — IO.I	— 18.5 — 18.0
вА	19	166 18.9		65 02.0	42 16.4	- 10.0	I3.6
Α.	20	166 16.1		65 13.1	42 13.6	<b>—</b> 5.6	<b>— 13.0</b>
ВА	21	166 16.2		64 34.2	42 13.7	— o.6	21.2
ъ. В.	22 23	 166 19.6				- 3.3	<b>— 23.4</b>
	1 23	1 100 19.0			42 17.1	<u> — 20.7                                   </u>	- 26.2

Circle readings of azimuth marks, magnet, and true south at Teplitz Bay-Continued

Point-	Date	Azimuth mark No. 2, cross	Azimuth mark No. 1, anemometer	Circle reading of		Cent. te	
		110. 2, 61055	staff	magnet	true south	Max.	Min.
	1904	0 /	۰ ,	۰,	o ,	o	0
Α.	Jan. 24	166 17.2			42 14.7	— 13.4	27.9
Α.	25	166 18.8		64 55.3	42 16.3	16.2	- 21.8
<u>A</u> .	26	166 18.7		65 56.4	42 16.2	<u> — 21.8                                    </u>	28.4
ВА	27	166 18.9		64 51.1	42 16.4	<del> 26</del> .4	— 31.7
ВА	28	166 20.7		64 50.9	42 18.2	<u> — 30.0                                 </u>	-33.6
• •	29			64 58.9	42 19.1	- 29.0	-32.7
ъ. В.	30				42 19.9	29.7	— 32.6
ь,	31	166 23.2		• • •	42 20 7	— 29.6 <u> </u>	<b>—</b> 34·5
Α.	Feb. 1	166 24.7		65 24.1	42 22.2	- 31.7	<b>—</b> 35.0
В.	2	166 23.3		64 58.1	42 20.8	— 29.0	- 33.0
$\mathbf{B} \mathbf{A}$	3	166 22.9			42 20.4	24.5	- 31.7
Α.	4	166 23.8		64 59.1	42 21.3	26. I	- 29.5
Α.	5	166 23.0			42 20.5	— 24. I	— 29.0
	6					- 23.4	— 27·3
BA	7	166 23.1			42 20.6	— 25.6	<del> 29.5</del>
B A B A	8	166 24.7		65.02.5	42 22.2	— 20. I	-31.1
B A	9	166 24.2 166 22.2		65 03.1	42 21.7	— 20.1 — 23.4	-27.8 $-27.3$
A .	11	166 23.5			42 21.0	- 22.9	-38.2
	12			64 43.2	42 20.8	-38.3	<del> 42.0</del>
	13				42 20.6	- 24.0	41.7
Α.	14	166 22.9		65 29.8	42 20.4	- 15.7	— <u>;</u> i. i
Α.	15	166 25.0			42 22.5	— 31.I	<b>— 41.7</b>
ВА	16	166 27.7		64 42.5	42 25.2	— <u>3</u> 6.0	42.3
В.	17	166 26.7			42 24.2	- 20.9	40.0
ВА	18	166 24.6		64 36.6	42 22.1	- 15.7	- 38.2
в.	19	166 27.7		65 24.1	42 25.2	— 31.6	<b>— 42.6</b>
ВA	20 21	166 25.2			42 22.7	— 20.1 — 18.5	$\frac{-31.7}{-27.6}$
БА	21 22			64 56.8	42 21.8	— 9.8	$\frac{-27.0}{-21.4}$
ВA	23	166 23.4	166 29.3	64 58.4	42 20.1	- 8.8	- 33.0
В.	24	166 25.0			42 22.5	- 5.0	-35.2
ВА	25	166 22.4		64 58.3	42 19.9	- 15.1	- 27.5
в.	26	166 23.7	166 29.4	64 37.0	42 21.3	<b>—</b> 3.6	<b>— 27.3</b>
	27					- 4.4	<b>— 31.7</b>
$\mathbf{B} \mathbf{A}$	28	166 21.4		65 01.6	42 18.9	<b>—</b> 19.6	<del></del>
	29			65 02.8	42 17.3	- 1.0	— I3.3
TD 4	3.51.1	-66 -0 -	766 22 9	64 6	40.74.0		22.5
BA	M'ch I	166 18.2	166 23.8	64 57.6	42 14.8	— 5.o	— 22.9
ВА	2	166 17.0		64 20.3	42 14.5 42 16.5	— 12.3 — 22.7	33.8 38.4
 A .	3	 166 21.0		1	42 18.5	- 8.4	31.1
A1 .	4 5	100 2110				- 23.6	-37.6
	6					- 17.1	- 24.3
	7					17.2	<b>—</b> 27.2
AΒ	8	166 23.3		64 58.3	42 20.8	- 27.2	<b>—</b> 30.8
В.	9	166 23.7		65 01.4	42 21.2	- 27.8	30.5
ВА	10	166 23.6		65 04.9	42 21.1	— 3o.5	- 34.2

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Circle readings of azimuth marks, magnet, and true south at Teplitz Bay-Continued

Point-	Date	Azimuth mark No. 2, cross	Azimuth mark No. 1, anemometer	reading of		tuı	empera- ce
s		110. 2, 01000	staff	magnet	true south	Max.	Min.
	1904	0 1	0 /	0 /	o ,	0	0
вА	M'ch II	166 24.4		64 49.2	42 21.9	25.0	- 27.9
<u>.</u> .	12				· · · ·	— 26.2	-42.8
$\mathbf{B} \mathbf{A}$	13	166 26.1		65 05.1	42 23.6	40.6	43.8
А. ВА	14	166 22.3 166 28.6		65 41.1	42 19.8	— 36.o	- 42.2
ВА	15 16	166 27.4		64 42.4	42 26.1 42 24.9	— 38.6 — 40.7	44·4 46·2
A .	17	166 27.2		65 00.3	42 24.9	-37.5	46.3 43.8
A .	18	166 28.2		65 04.8	42 25.7	-33.8	-45.6
	19					— I9.0	-33.9
ВА	20	166 24.8			42 22.3	- 22.3	-37.7
	21			64 49 9	42 21.8	— 13.3	22.9
	22			65 27.7	42 21.4	<b>— 12.9</b>	- 25.2
A .	23	166 23.5		64 52.2	42 21.0	25.2	-31.7
A . B .	24	166 25.2		65 06.8	42 22.7	<b>— 31.7</b>	38.3
ь.	25 26	166 27.0		64 25.7	42 24.5	- 29.0	<del>- 39.4</del>
À .	27	166 27.7			42 25.2	29.0 21.2	— 34·4 — 34·0
В.	28	166 24.8		65 00.4	42 22.3	- 4.0	-34.9 $-21.2$
вА	29	166 20.8		64 42.2	42 18.3	- 3.3	- 12.4
ВА	30	166 20.2			42 17.7	- 12.4	30.9
ВА	31	166 21.6		64 36.3	42 19.1	15.1	- 31.7
в.	April 1	166 21.0			42 18.5	<b>—</b> 4.0	15.1
А.	2	166 20.0				<b>—</b> 3.4	<b>—</b> 5.6
A .	3 4	166 19.3	• • •		42 17.5 42 16.8	3.3	— 6.2
ВА	5	166 19.3		64 57.4	42 16.8	— 5.6   — 3.4	— 19.6 — 27.0
ВА	6	166 18.9		04 3/14	42 16.4	- 22.9	$\frac{-27.9}{-33.3}$
вА	7	166 19.2			42 16.7	- 23.4	<del></del> 31.4
ВА	8	166 21.0			42 18.5	25.3	-33.1
 A D	9					23.4	-32.3
A B A .	IO	166 22.2		• • • ;	42 19.7	- 22.5	— 30. г
B A	11	166 22.2 166 25.2			42 19,7	- 21.3	-32.3
BA	13	166 25.7		65 02.7	42 22.7	- 32.2	<del> 38.3</del>
Ã.	14	166 25.3		64 51.4	42 23.2 42 22.8	- 27.6	<del> 36.5</del>
ВА	15	166 26.5		65 09.3	42 24.0	-27.1 $-32.8$	- 32.9 - 37.0
	61					- 20.7	-37.9 $-37.3$
ВА	17	166 25.5			42 23.0	- 17.4	-24.5
Α.	18	166 23.7			42 21.2	- 20.0	<b>— 30.9</b>
ВА	19	166 24.2			42 21.7	19.1	— 36. i
 А.	20	166 01 8		64 39.1	42 20.5	<b>— 15.7</b>	<del></del> 19.6
B A	21	166 21.8 166 21.5	166 27.7	64 43.7	42 19.4	- 13.4	<b>—</b> 18.9
	23	100 21.5	166 27.3	64 39.6	42 18.1	— I6.2	<b>— 22.</b> 6
À .	24	166 21.1	 166 27.1	65 00.3	42 78 8	16.8	- 24.0
Α.	25	166 21.4	166 27.1	65 08.7	42 18.8 42 19.0	- 15.7 - 10.6	- 21.3 - 22.2
$\mathbf{B} \mathbf{A}$	26	166 21.2		64 54.0	42 19.0	— 19.6 — 21.6	— 22.2 — 28.1
ВА	27	166 21.6			42 19.1	- 22.9	

Circle readings of azimuth marks, magnet, and true south at Teplitz Bay-Continued

Point-	Date	Azimuth mark No. 2, cross	Azimuth mark No. 1, anemometer	reading of		Cent. te	empera- re
1116		110. 2, 01033	staff	magnet	true south	Max.	Min.
	1904	0 /	0 /	0 ,	0 /	۰	0
Α.	April 28		166 27.9	64 44.9	42 19.6	- 23.2	<del> 30.3</del>
вА	29	166 22.0	166 27.2	64 34.8	42 18.1	- 24.4	29.9
	30					24.7	- 27.3
вА	May 1	166 21.3			42 18.8		
A .	2	166 21.5	166 27.4		42 19.1		
BA	3	166 21.9		64 34.8	42 19.4		
BA	4	166 20.4			42 17.9		
BA BA	5	166 19.1	166 24.4	65 02.8	42 15.6		• •
B A	6 8	166 19.4 166 18.8	166 <b>24.</b> 6 166 <b>24.</b> 0		42 15.8 42 15.2		• •
BA	9	166 18.6	100 24.0	65 09.2	42 15.2	• •	
BA	10	166 17.1	: : :	64 51.1	42 14.6		
ВА	II	166 16.7			42 14.2		
ВА	12	166 15.2	166 20.7		42 11.7		
ВА	13	166 15.0	166 20.5		42 11.5		
ВА	15	166 15.1	166 20.7	1	42 11.7		
; .	16			65 12.1	42 13.0		
A .	17	166 16.0		65 11.2	42 13.5		
A. BA	18	166 16.0 166 15.3	166 20.2	64.06.0	42 13.5		
B A	19 20	166 15.2	166 20.5	64 26.2	42 I2.4 42 II.7		• •
	21		100 20.5		42 11.7	<b>—</b> 7.3	<del>-</del> 10.5
ВА	22	166 15.3	166 20.3		42 12.5	- 7·3	— 17 6
<b>A</b> .	23		166 21.2	65 04.3	42 13.0	- 5.3	I2.I
Α.	24		166 21.5		42 13.1	<b>—</b> 6.0	<b>— 12.3</b>
A .	25	166 15.2		65 01.0	42 12.7	<b>—</b> 6.7	11.8
ВА	26	166 14.2	166 20.1	64 07.1	42 10.9	- 6.5	<b>—</b> 9.6
ВА	27 28	166 14.3	166 19.3	64 51.0	42 10.7	+ 2.0 + 1.7	— 6.7 — 0.8
ЬÀ	29	166 13.0	 166 17.7		42 09.3	+ I.7   + I.I	— 0.8 — 4.5
B A	30	166 13.0		65 07.8	42 10.5	- 3.9	— 9.6°
BA	31	166 12.6		64 48.7	42 10.1	— 4.i	— <u>9</u> .7
ВА	June 1	166 12.5	166 18.2		42 09.1	5.2	<b>—</b> 8.4
BA	2	166 11.5		64 26.6	42 09.0	— o.5	- 8.0
BA	3	166 11.3	166 16.8	64 01.7	42 07.8	- o.5	- 6.0
	4					- 2.7	<b>—</b> 6.0
ВА	5	166 11.5	166 16.5		42 07.9	+ 0.7	6.1
ВА	6	166 11.5			42 09.0	+ 0.6	2.8
A .	7	166 11.2		• • •	42 08.7	0.5	<b>— 3.9</b>
BA	8	166 11.4	166 16.8		42 07.9	+ 0.6	2.2
BA	9	166 09.9	166 16.3	64 14.2	42 07.8	+ 0.6	<b>—</b> 5.3
ВА	10	166 10.3	166 16.1	64 42.8	42 06.9	+ 2.4	- 0.5
D A	II	166 10.0	 166 15.5		42 06.5	+ 1.6 + 4.4	— o.5
BA A.	12	166 10.6	166 15.8	65 09.2	42 00.5	+ 4.4 + 2.8	— o.o — o.7
A	13 14		100 13,0	64 42.6	42 07.9	+ 1.0	- 0.7 - 0.5
• • 1	-4	• • •	• • •	, <b></b>	T- 0/.5		1 0.5

Circle readings of azimuth marks, magnet, and true south at Teplitz Bay-Concluded

Point-	Date	Azimuth mark	Azimuth mark No. 1, anemometer	Circle reading of	Circle reading	Cent. te	
ing		No. 2 cross	staff	magnet	gnet true south		Min.
	1904	0 /	0 /	۰ ,	o ,	٥	0
Α.	June 15	166 10.0			42 07.5	+ 1.0	- 1.1
ВА	16	166 09.7			42 07.2	— o.5	<b>— 2.9</b>
ВА	17	166 09.6	166 15.6	64 14.5	42 06.3	<b>—</b> 2.5	5.8
	18				٠	+ 0.4	<b>—</b> 3.6
$\mathbf{B} \mathbf{A}$	19	166 09.6			42 07.1	+ 3.0	- o.8
ВА	20	166 10.1		65 13.2	42 07.6	+ 6.3	+ 1.1
ВА	21	166 10.9			42 08.4	+ 4.2	— I.7
$\mathbf{B} \mathbf{A}$	22	166 10.1			42 07.6	+ 8.5	<del></del> 1.1
Α.	23	166 10.7		63 32.8	42 08.2	+ 3.2	2.0
ВА	24	166 11.2		64 42.1	42 08.7	+ 3.9	<del>-</del> 0.2
	25					+ 3.3	— r.7
$\mathbf{B} \mathbf{A}$	26	166 11.0			42 08.5	+ 1.7	— I.I
Α.	27	166 12.2			42 09.7	+ 4.0	<b>—</b> 1.2
$\mathbf{B} \mathbf{A}$	28	166 14.3		64 51.2	42 11.8	+ 1.1	— I.3
Α.	29	166 15.2			42 12.7	+ 4.8	— ı.i
ВА	30	166 16.0		64 <b>36</b> .1	42 13.5	+ 4.9	— o.5
ВА	July 1	166 14.9	• • •		42 12.4	+ 1.7	<del>-</del> 0.4

Circle reading of magnet for days on which the circle was shifted at Teplitz Bay

Date	Ch		rea	rcle ding agnet	Dat	e		ır'r me	rea	rcle ding agnet	Date	2		r'r ne	rea	rcle ding agnet
1903	h	m	0	,	1903	•	h	m	0	,	1903		h	m	0	,
Sept. 30	0	00		40.6	Oct.	4	7	28		19.7	Oct.	8	17	52		22.0
	0	48		10.0		7	6	00		33.7			17	54		12.5
	1	58		36.0				22		10.7			18	04		32.0
	11	10		55.0			6	58		07.5			18	о8	64	43.0
	20	28		11.3			7	54		14.5			18	20		36.2
	20	34		04.2			8	08		59.0		13	12	00		29.4
	20	36		52.2	1		9	42		52.5	•		13	32		32.0
	20	42	04	55.3			9	54		17.3			13	48		00.5
	21	о6		10.0			10	44	63	24.5			14	00	64	17.5
	21	10		02.3			10	52	63	54.5		14	0	00	65	30.7
	21	28		52.2			10	54		16.0			0	04	65	58.7
	21	38		52.0			22	36	66	07.0			0	10		35.0
	21	42		06.7			22	44	66	38.0			1	04		43.3
	21	48	66	29.0	ĺ		22	46		36.5			1	26	65	29.7
	21	52	65	20. I		i	23	00		12.7			2	08		19.8
Oct. 4	0	00	64	52.7			23	06		30.5			2	44		21.0
	4	48		29.7			23	12		11.2			2	46		57.3
	6	51	66	05.8		8	16	02		46.5			2	50	66	39.0

Circle reading of magnet for days on which the circle was shifted at Teplitz Bay-Continued.

Date	Chr'		Circle reading of magnet	Date	Chr'r time	Circle reading of magnet	Date	Chr'r time	Circle reading of magnet
1903 Oct. 14	2 3 3 3 3 3 3 3 3 3 4	m 56 04 12 18 20 26 30 36 38 44 52 16	68 01.0 66 06.0 67 19.3 66 31.3 68 00.0 66 53.3 67 54.7 68 49.7 67 58.0 66 53.3 65 51.3 64 35.7	1903 Nov. 1	h m 1 02 1 04 1 08 1 14 1 28 1 30 1 32 1 36 1 42 2 10 2 14 2 16	66 46.8 68 04.6 67 11.8 66 19.7 64 57.0 65 17.5 66 13.5 64 50.7 65 07.2 64 07.3 65 27.2 66 31.4	1903 Nov. 1	h m 4 26 4 28 4 30 4 32 4 34 4 36 4 38 4 40 4 42 4 50 4 52 4 56	o , 71 32.6 71 33.3 68 34.9 66 16.6 66 15.3 66 21.8 67 14.3 66 45.3 67 04.3 66 35.0 66 35.0 67 07.3
	4 4 4 8 18	18 26 28 42 58 46 58 16 26 36 38 52 56	67 39.0 66 59.6 67 30.5 66 12.5 65 26.8 64 38.3 65 12.0 64 12.3 65 05.3 64 04.3 65 27.2 65 02.3 66 00.2 67 39.2		2 20 2 22 2 24 2 26 2 28 2 30 2 32 2 42 2 44 3 02 3 06 3 14 3 18 3 20	67 56.5 68 32.5 66 44.5 67 12.5 68 28.3 67 10 0 65 45.3 66 15.5 65 35.2 66 22.7 67 14.0 69 05.6 70 22.6 68 46.5		5 04 5 06 5 10 5 14 5 16 5 18 5 22 5 24 5 26 5 31 5 34 5 36 5 38	68 50.2 71 14.2 66 14.9 68 20.3 67 42.8 68 17.6 67 26.9 65 40.5 66 35.7 68 09.9 65 35.6 64 54.9 65 01.3 66 00.5
16	21 23 23 20 20 20 21 21 21 21 21	02 30 34 48 00 10 24 04 06 08 10 16 58	65 36.0 65 55.3 65 05.7 65 53.7 64 49.2 65 36.8 64 22.7 64 10.0 65 59.3 66 55.3 66 09.5 64 53.3 64 57.7		3 22 3 22 3 30 3 32 3 34 3 34 3 46 3 50 3 52 3 54 3 56	65 18.5 65 00.5 65 31.7 65 21.2 67 54.1 72 50.8 73 38.7 72 01.6 72 35.7 74 53.0 72 06.8		5 44 5 46 5 49 5 51 5 54 5 56 6 00 6 02 6 04 6 08 6 10	64 40.0 67 10.5 69 54.2 69 02.9 66 55.2 67 34.9 69 14.3 67 50.9 66 31.5
18 26 Nov. 1	23 0 4 7 9 0 0 0 0	50 08 59 56 00 06 12 14 36 38 46	64 24.1 65 15.2 66 01.1 64 51.9 66 40.7 67 23.5 66 39.5 65 30.5 66 14.8 67 19.7		3 58 4 06 4 08 4 10 4 12 4 14 4 16 4 20 4 22 4 22	79 19.5 6 68 55.8 6 65 53.2 6 66 57.7 6 66 52.7 6 69 30.8 71 08.3 70 32.1 6 36.0 2 66 35.4		6 14 6 16 6 18 6 20 6 24 6 32 6 34 7 10 7 22	68 42.6 66 25.9 64 46.5 66 32.5 68 10.9 68 55.3 67 35.8 67 19.5 68 15.3

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Circle reading of magnet for days on which the circle was shifted at Teplitz Bay-Continued

Date		ır'r me	Circle reading of magnet	Date		hr'r ime	rea	ircle iding iagnet	Da	te		hr'r me	Circle reading of magnet
1903	h	m	0 /	1903	h	m	٥	,	190	23	h	m	. 0, 1
Nov. 2	8	00	64 25.0	Nov. 11	18	14	65	57.2	Nov		17	22	66 00.7
	8	06	64 59.5		18	20	66	12.5			17	42	65 15.7
4	0	00	65 29.5		18	52		23.0		27	20	00	65 06.7
	0	02	64 40.3		21	08		38.3			23	14	66 15.7
	13	02	63 48.7		21	12		36.3			23	16	65 54.7
	16	26	65 50.0		22	46		28.0			23	38	65 39.5
	16	46	67 02.7		22	50		08.3		29	0	00	64 37.5
	16	50	70 55.2		22	51		42.2	Das	_	4	36	65 38.8
	16	52	72 10.7		22	58		51.3	Dec.	2	0	00	64 18.2
	17	54 00	70 11.7 69 00.2	12	15	58 28		24.7			3	14	65 11.9 66 18.9
	17	C2	68 04.5		16	52		33.2			5 6	46 26	65 38.7
	17	08	67 02.5		16	56		00.7			12	00	64 58.2
	17	10	65 42.2		17	00		27.8	,	4	20	00	64 17.5
	17	16	64 45.1		17	04		48.7	,	т	20	12	63 32.8
6	20	00	64 23.5		17	14		50.2			20	28	64 41.2
	20	44	65 37.3		17	28		47.3			20	30	66 05.8
	20	46	64 34.3		19	44		08.2			20	33	64 06.1
	20	56	65 33.3	•	19	50		06.0			20	37	63 34.8
0	2 I	06	64 35.5	15	0	00		31.2			20	40	65 08.9
8	0	00	64 58.0		4	30		29.5			20	46	65 00.5
11	3	54 00	65 14.4	17	12	00		29.0			20	48	65 46.6
11	0	36	65 35.1 67 13.8	18	14	38 00		39·4 09.2			20 20	52	65 15.5
	o	38	65 37.7	10	0	38		05.1			20	56 00	64 48.3 65 16.2
	o	40	66 35.9		15	26		10.3			21	08	65 33.7
	О	48	65 14.8		23	12		49.6			21	16	64 31.0
	I	44	65 35.5	19	16	00		05.3			23	04	65 43.7
	2	42	66 06.5		19	40		22.0			23	08	65 11.7
	2	54	66 23.7		19	46		29.8			23	16	64 06.2
	3	00	67 06.7		19	56		36.9			23	26	64 40.0
	3	10	67 42.5	20	20	00		54.0			23	36	66 23.7
	3	16 20	66 41.5 67 38.0		23	34		17.5			23	38	65 45.1
	3	44	66 16.9		23	42 46		07.0		-	23	46	65 35.7
	4	36	65 13.5	.,	24	00		44·5 31.7		ĺ	23	48	65 11.2 66 17.0
	4	50	66 17.5	22	0	00		12.0		ı	23 23	56 58	66 37.0
	4	58	65 25.8		3	24		15.5		6	-3	00	67 31.7
	6	10	65 37.5		3	30	67	10.3			0	02	66 03.8
	8	<b>o</b> 6	64 35.5		3	38	67	49.7		- 1	0	08	65 42.5
	8	12	65 08.5		3	40		25.5			0	12	66 55.0
-	12	08	65 22.1		3	42		28.9			0	16	66 08.2
	17	45	69 30.7		3	44		48.5			4	02	64 42.1
	17 17	48 50	70 33.0 68 26.0		3	52		47.4		9	0	02	65 23.3
	17	52	66 37.2		4	00	66	20.7			20	20	65 23.7
	17	56	65 50.5		4	14 20	66	42.0 25.8			20	32	64 23.2
:	18	00	65 07.0		4 4	24		40.9			20	36	65 05.0
	18	02	66 10.2	. 35	7	26		34.8		т,	20 0	50	64 52.0
	18	07		25	ó	00	65 6	03.8		13	6	02	64 56.5 65 35.5

Circle reading of magnet for days on which the circle was shifted at Teplitz Bay-Continued

Date	Chi		Circle reading of magnet	Date	Ch tir		Circle reading of magnet	Date	Ch tin		Circle reading of magnet
1903	h	m	0 /	1904	h	m	0 /	1904	h	111	0 /
Dec. 16	0	02	64 45.4	Jan. 1	19	52	68 06.2	Feb. 3	10	50	67 39.5
Dec. 10	20	58	65 22.0	Jan. 1	19	54	64 52.8	1 60. 3	o	52	66 11.5
'	21	02	66 41.3		19	56	64 01.0		ı	52	65 37.5
	21	08	65 08.7		19	59	64 28.1		19	12	66 43.3
	21	10	66 50.9		20	00	63 48.1		19	16	65 38.5
	21	13	65 46.7	3	0	00	65 03.8		21	24	67 28.3
	21	14	64 53.2		3	08	65 30.2	H	21	26	66 28.2
	21	1Ġ	66 25.0	6	0	00	65 18.4	IĮ.	21	30	65 12.2
	2 I	20	65 44.5		5	36	66 06.6	[	22	22	66 22.3
	21	26	64 50.7	II .	6	29	65 30.4		22	40	64 53.2
	22	42	65 21.2		10	08	64 55.6	5	20	00	64 56.2
20	0	00	64 53.3		22	08	66 54.0		21	14	68 22.0
	3	06	65 57.7		22	12	66 03.1		21	16	67 24.7
	3	32	66 40.9		22	14	65 21.3		21	25 28	65 08.0
	3	44	65 36.4	10	0	18	64 43.8		21		64 36.3
20	7	16	64 41.6		2 2	32	66 16.7		21	54 14	66 23.7
30	0	00 12	64 28.6		2	58	65 20.2		22	22	67 43.0
	7	14	65 21.5		3	14	66 10.8		22	28	65 57.2
	7	18	64 23.3		3	56	67 37.5		22	32	64 27.2
	7	24	65 01.3	III	4	24	66 42.4		23	16	65 24.9
	7	42	66 22.9	11	8	00	65 28 2	7	ŏ	00	65 01.6
	7	48	65 25.8		8	50	66 23.8		0	10	65 33.4
	8	34	64 27.0		9	18	65 35.1		0	16	64 56.2
	9	- 52	63 34 0		9	38	64 56.2		0	18	65 48.7
	10	44	64 44.8	13	0	04	64 34.0		I	02	65 13.9
	II	00	64 05.2		2	14	64 47.1		4	54	66 34.2
	12	12	65 30.5	H	2	46	65 28.9	i	5 8	26	65 48.0
	17	20	64 29.3		10	06	64 55.2		8	00	64 57.7
31	20	00	65 58 7		23	14	66 12.3	8		00	65 11.5
	21	10	66 17.8	1	23	30 58	65 05.4	1	II	00	64 24.5
	21	16	64 50.9	17	23	58 00	65 05.8	10	22	18	64 57.1
	2 I 2 I	22	66 14.7	1	0	50	66 04.0		22	21	64 34.7
	21	24 26	65 55.0		4	00	64 59.7		22	56	65 34.7
	21	40	65 12.7	23		00	65 15.1		23	00	66 31.7
	23	24	66 27.8		22	I 2	66 07.0		23	02	64 49.0 65 34.7 64 30.3
	23	26		,	22	36	64 53.2		23	20	65 34.7
	23	46	66 19.8		22	54	65 44.1		23	32	64 30.3
	23	53	65 14.3		. o	02	64 43.2	11		00	64 59.7
	23	55	65 19.2		4	06	65 26.8	1	,19	36	66 30.7
	23	56	66 48.8	31	0		65 04.8		19	38	67 42.3
	23	58	66 15.3		I	I 2	65 55.9		19	42	
	24	00	64 56.7		I	30	66 31.7		19		67 24.7
1904					I		66 55.7		20		5
Jan. 1	16	00			4	_	64 33.3	15		_	
-	18	50	66 11.2	:	4		65 31.7	1	9		
	19	08	65 21.7	Fob	$\frac{7}{2}$		64 22.9 65 52.5	17			
	19	34	64 34.3	' 11	3 0	_		-	C		
	19	48	66 39.3	i	1 0	. 10	, 00 03.5	i= .	2	32	66 02.2

Circle reading of magnet for days on which the circle was shifted at Teplitz Bay-Continued

	1	1	T	1						T
Date	Chr'r time	Circle reading of magnet	Date		nr'r me	Circle reading of magnet	Date		ır'r me	Circle reading of magnet
1904 Feb. 17	h m 4 30 5 06 6 10 6 14 6 28 6 44 8 06 8 28 12 32 21 04 21 10 21 12 21 22 21 26 21 28 21 30 21 32 21 34 21 42 22 10 22 12 22 16 22 30 0 00 4 00 0 3 56 10 18 0 00 2 10 20 16 20 22 20 24 20 28 20 32 20 34 20 56 21 08 20 00 20 04 20 08 20 00 20 04 20 08 20 00 20 34 0 00	of magnet , 7,7 o 66 59.2 66 59.2 66 43.4 66 43.2 66 65 42.0 66 65 42.2 66 65 42.2 66 65 66 65 66 65 66 66 66 66 66 66 66 6	1904 M'ch 27 30 April 1	h 2 4 0 21 20 20 20 20 20 20 20 20 20 20 20 20 20	m 52 00 06 00 12 14 17 20 32 42 72 93 34 44 48 50 04 12 18 42 8 31 8 44 44 8 55 8 00 12 16 22 8 32 8 44 45 55 8 01 16 22 8 32 8 44 45 55 8 01 16 22 8 32 8 44 8 55 8 01 16 22 8 32 8 44 8 55 8 01 16 22 8 32 8 44 8 55 8 01 16 22 8 32 8 44 8 55 8 01 16 22 8 32 8 44 8 55 8 01 16 22 8 32 8 44 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	of magnet  , 52.0 65 16.2 65 33.5 64 33.7 65 33.7 66 33.7 66 33.7 66 33.7 66 34.7 67 66 43.1 67 68 43.1 68 69 69 69 69 69 69 69 69 69 69 69 69 69	1904 April 3 4 6	h I I 4 5 5 5 6 8 8 II 0 5 5 5 6 12 14 23 23 23 23 16 19 20 20 0 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	m 38 40 00 46 8 50 00 20 54 46 32 20 40 81 83 32 00 00 30 00 55 00 44 00 14 32 45 58 00 00 10 26 00 10	of magnet  of 32.8  of 32.8  of 37.7  of 32.7  o
27	7 04 0 00	66 03.7 65 00.4		0	52 10	65 39.4 64 25.8	18	4 8	00 26 00	65 49.7 65 19.5

Circle reading of magnet for days on which the circle was shifted at Teplitz Bay-Concluded

Date	Ch tir		read	rcle ling agnet	Dat	e	Ch tir		rea	rcle ding agnet	Dat	te	Ch tir	r'r ne	Circl reading of mag	ng
1904	h	m	o	,	190	)4	h	m	0	,	190	24	h	m	0	,
April 18	8	32	64	41.0	May	18	1	20	64	40.7	June	8	4	38	<b>65 2</b> 9	).5
•	8	56	I	09.9			2	52		24.4		12	ó	00	64 26	
	9	58		36.3			9	08		25.7			5	14	65 05	
19	12	00		30.2			10	20		21.4		15	0	00	64 49	
07	15	52	1 -	40.7			18	32 56		19.0 21.8			17 18	10 06	64 09	
27	3	00 42		33·3 09.0			19	14		22.2			18	52	62 47	
May 1	0	00		36.4		20	20	00		59.I			20	48	62 07	
	3	50	65	38.3			20	22		59.8			<b>2</b> I	38	63 45	
	4	22	66	37.0			20	24		50.3		_	21	46	63 03	
	7	56		19.7			20	30		03.1		16	16	00	64 05	
2	8	00		59.8			2I 22	00 12		46.8		19	18	06 00	63 26	
4	10	46 00		48.7 25.2			22	16		12.3		19	3	52	65 04	
4	I	18		03.7			22	24		23.0		21	12	00	64 46	
	13	06		22.2		22	0	00	64	53.9			15	IO	64 01	.7
6	20	00		21.2			2	46		30.2		22	0	00	64 14	
	23	18		22.6		24	12	00		33.2			I	58	64 59	0.0
8	23	22 00	1 - "	16.4 42.5			13 15	50 06		0I.2 20.2			5	22 34	65 58	1.4 1.7
0	3	42		26.8	il .	<b>2</b> 9	0	00		13.8		<b>2</b> 6	0	00	63 53	
II	0	00		57.5		-,	I	18		27.2			4	00	65 04	
	4	52		50.7	]		4	OI		00.7			5	34	65 55	5.4
	12	44		0.00	June	I	0	00	63	53.3		27	8	00	65 35	5.8
12	16	00		05.3			0	40	64	43.8			8	22	64 39	).8
	18	26		06.1			3	48 51		28.2 27.9			10	04 36	65 58	
13	20	32 00				5	o	00		42.8			II	14	64 38	3.2
-3	22	58		53.6			ı	10				<b>2</b> 9	0	00	64 33	3.8
	23	00		41.5		6	8	00		07.6			5	<b>о</b> б	65 43	3.6
	23	04		31.4			8	42	63	36.2			7	28	64 56	5.9
15	0	00		09.8		_	8	44		16.2			13	48	63 58	
	2	52		03.8		7	12	00 18		41.2 48.3			23	38 48	65 10	•
	4 5	38 10		05.5 42.8			14	14		02.2	July	1	23	00	63 3	-
	6	58		50.0			15	26		17.8	""	-	20	54	62 42	
18	0	00		05.1			15	46		27.5			21	50	63 22	
	0	44	64	56.9		8	ŏ	00	64	55.1	H		22	04	64 0	7.0
	I	18	65	47.3							li <sup>,</sup>					

## Notes Accompanying Declination Records at Teplitz Bay

October, 1903.-4, auroral display about 9:30, fog prevailing since 0:00; 4:03:48, daylight begins.-7:09:24,\* oscillation checked with steel pin; 7:09:46, scale passed off thread, 4d.5 estimated; 7:10:36, oscillation checked with pin; 7:10:32, quiescent for 10 seconds.—12, snow drifting, cloudy, daylight about 6 A. M., bright moon makes it difficult to determine daylight in cloudy weather.—14, slight aurora in east on beginning, sky 50 per cent clouded, windy; 14:07:00, daylight begins; 14:20:30, cloudy and foggy; 14:24:00, thick, cloudy weather.—15, cloudy and foggy entire period of observation.—16:21:00, aurora appears; 16:21:32, aurora disappears gradually overhead, low fog; 16:21:36, aurora again appears extending from north to southwest, but not very intense; 16:22:34, wind rising; 16: 22: 58, aurora has disappeared.—18, on beginning light aurora from southeast to southwest, clear and still; 18:00:48, aurora has disappeared; 18:03:34, scale went from 40d.8 to 42d.5 in 30 seconds.—19, foggy; 19:09:13, scale traveled from 9:13 to 9:15 and then stopped.—21, clear; 21:04:12, clouded over; 21:07:00, daylight begins; 21:16:06, daylight ends; 21: 18: 38 clouded entirely; 21: 20: 18, R. T. reports aurora in northwest.—22: 16:00, daylight ends, clear; 22:18:42, very high wind in gusts; 22:19:32, faint auroral light in southwest.—23, observations omitted on account of blizzard.—25, foggy, clear overhead, still; 25:03:10, very slowly increasing; 25:03:12, very slowly increasing; 25:03:24, wind begins to rise; 25:04:00, partly cloudy; 25:07:00, daylight begins; 25:08:22, starts to decrease; 25:08:40, continues to increase from 22d.2.-27, northeasterly storm; 27:14:26, wind subsides; 27:15:00, wind rises.—28, cloudy and calm; 28:02:06, clouds breaking away overhead, foggy; 28:03:14, took 30 seconds to make oscillation; 28:03:50.5, took one minute to make this oscillation beginning at 3:50; 28:07:34, daylight begins; 28:11:20, cloudy and calm, light snowflakes; 28:17:50, snowing.—29:18:00, clouded entirely.— 30: 22: 30, overcast and cloudy.

November, 1903.—1:00:00, auroral light is waning as observer begins; 1:00:22, stopped for an instant and continued to decrease; 1:00:28, clear sky, aurora has disappeared; 1:00:50, aurora appears again, not very brilliant, clear sky; 1:01:12, passed 96.0 and came back to recorded values, aurora not very brilliant from magnetic northeast to zenith and magnetic southwest; 1:01:22, aurora growing faint in northeast and zenith, southwest remains the same; 1:01:26, jumps off scale from 70d.2; 1:01:38, brilliant light again northeast, zenith and west; 1:01:58, aurora fainter and in southeast; 1:02:10, aurora mostly in north; 1:04:12, a gradual change from 4:12 to 4:14.5; 1:07:10, aurora disappeared; 1:08:12, daylight begins.—2:08:15, cloudy, completely overcast.—3:12:32, steady at 33m and begins to decrease, no oscillation.—4:00:14, cloudy and snowing; 4:00:46, observations suspended to give order relating to ice gain signals; 4:04:12, clear sky; 4:07:58, daylight begins; 4: 17: 12, faint aurora stretching in line overhead from magnetic northeast to southwest; 4: 19: 28, bright, moonlight night; 4: 22: 20, faint aurora from overhead to magnetic southwest; 4:22:44, aurora has disappeared. -5:16:00, thick fog prevails throughout observations.—8:00:10, clear, light fog on horizon; 8:04:12, clear, moonlight, still.—9:08:22, magnet had to be raised; 9:08:50, stationary for 10 seconds or more; 9:09:30, stationary for 10 seconds or more; 9:09:52, reaches 48d.0 at 9:53; 9:09:56, reaches 38d.7 at 9:57.2.— 11:00:34, reaches 71d at 0:34.5; 11:00:56, faint aurora in zenith; 11:01:42, reading

<sup>\*</sup>The first figure indicates day of month, the others the hour and minute on chronometer, civil reckoning from 0 hour through 24 hours, thus: 23:21:08 means 23d day of month at 21h 08m or 9h 08m P. M. Directions unless 'otherwise' specified are magnetic.

estimated; 11:03:30, decreasing, but stopped at this; 11:03:32.3, decreasing, but stopped at this; 11:03:42, scale goes off at 3:42.5; 11:09:20, decreased to 49d.1 at 9:20.3; 11:10:10, begins to decrease without oscillating; 11:14:04, faint aurora in magnetic north; 11:16:00, aurora in magnetic south; 11:17:32, aurora, east to southeast; 11:17:45, oscillation had to be reduced with the pin as scale swung beyond the thread; 11:17:50, aurora, north to southwest; 11:19:32, faint aurora, north to southwest; 11:21:06, aurora magnetic east to west through south; 11:21:26, aurora has disappeared; 11:21:50, faint auroral light from magnetic south to west; 11:22:06, aurora from west to east through zenith; 11:22:14. aurora from south through west, faint; 11:22:26, reached 75d and returned to this.-12: 16: 00, faint aurora magnetic north to southwest at beginning; 12: 16: 50, aurora from northeast by east to south; 12:16:56, aurora extends in ill-defined bands from northeast to southwest, a bright band extends through the south, the others between this last and zenith, one through zenith: 12:17:10, aurora, three bright streams northeast to southwest through zenith and through southern sky; 12:17:30.3, aurora extending 45° vertically from horizon northeast; 12: 18: 24, no aurora; 12: 18: 40, bright aurora northeast to east, 45° above horizon; 12: 19: 36, auroral band east to south, 10° above horizon; 12: 19: 50, auroral streak north to west, 10° above horizon.—13, omitted on account of blizzard, hut inaccessible.—15:20:16, partly cloudy.—17, faint aurora at beginning, single strip northeast to southwest through zenith; 17:12:20, sky overcast; 17:14:32, partly cloudy, faint aurora in west, vertical strips from 15° to zenith; 17: 14: 40, faint aurora west to east through zenith; 17: 14: 50, faint aurora east to west through zenith and very faint patch in north 45° above horizon; 17: 15: 10, aurora growing stronger in east, patch to north has disappeared; 17: 15: 22, scale stopped at 67<sup>d</sup>.9 and then increased to 68<sup>d</sup>.8; 17:15:46, aurora has practically disappeared.—18:07:58, aurora in zenith extends to all points of the horizon, strongest in east and southeast; 18:08:18, aurora has grown very dim, especially in the east; 18:08:36, aurora has disappeared; 18: 09: 36, partly cloudy; 18: 10: 34, overcast; 18: 11: 56, overcast; 18: 11: 14, clear in zenith, very faint aurora from northeast to southwest through zenith; 18: 12: 48, aurora has disappeared; 18: 13: 04, faint aurora starts in zenith with increasing streamers extending 30° to southwest; 18:13:08, faint aurora, northeast to southwest, stronger in southwest; 18:13:24, aurora increasing in strength, extending from zenith to horizon from north to east and north to southwest, stronger in east; 18:13:30, aurora stronger in north, has disappeared in east; 18: 18: 14, aurora through zenith from northeast to southwest; 18: 18: 16, aurora has almost disappeared; 18: 18: 56, faint aurora in broken patches from north to east and half way to zenith; 18: 19: 08, aurora has disappeared; 18: 19: 58, very faint aurora in north, west and south: 18: 20: 10, aurora has disappeared; 18: 20: 22, faint aurora in south and southwest; 18: 20: 32, aurora in arch from northeast to northwest, vertex of arch 45° above horizon, also streamers from zenith to south and west; 18:20:42, very faint aurora extends in spots from east to west through zenith; 18: 21:00, horizontal circle accidentally moved; 18: 21:06, aurora has disappeared; 18:23:12, clear sky, no aurora; 18:24:55, telescope reversed on azimuth mark and gave same reading .-- 19: 16:00, faint aurora at beginning from northeast to southwest through zenith, stronger in southwest; 19:16:30, aurora has disappeared; 19:19:36, aurora reappears from northeast to southwest along horizon.—20: 20: 00, southeast blizzard throughout observations.—22:01:58, strong gale from south with flying snow; 22:04:54, decreased to 27<sup>d</sup>.0.--23:08:30, increased to 42<sup>d</sup>.9; 23:08:36, decreased to 27<sup>d</sup>.7; 23:11:22, decreased to 25d.2: 23:11:38, this oscillation in 30 seconds.—25:00:00, blizzard, 48 to 60 miles per hour, had to dig out entrance; 25:11:16, calm; 25:12:50, wind rising; 25:18:54, aurora northeast to southwest through south at 45° altitude; 25:21:06, cloudy.—26:16:00, eastsoutheast blizzard.—27: 20: 00, blizzard continues; 27: 19: 30, plane of detorsion is 352°, this change since last reading probably due to slackening of fiber before 10:00 in an attempt to get intensity observations.—30: 11: 38, foggy and snowing.

December, 1903.-1: 12: 22, overcast.-2: 01: 14, slowly decreasing after this reading: 2:02:06, 80 per cent thin clouds; 2:03:40, clear, calm, moonlight night; 2:03:58, increased to 54d.2; 2:05:50, clear, moonlight, no auroral light; 2:05:54.1, 30 seconds for this oscillation; 2:07:40, aurora extending from zenith to within 10° of horizon from north to west through zenith; 2:07:58, aurora from northeast through zenith; 2:08:18, aurora has almost disappeared; 2:08:24, aurora grows stronger from zenith to northeast and southwest; 2:08:46. aurora very faint; 2:09:02, aurora has practically disappeared; 2:09:10, aurora grows stronger in southwest, has disappeared in northeast; 2: 10:06, aurora has disappeared; 2:11:54, faint aurora northeast to southwest through zenith; 2:12:22, aurora extending from zenith in all directions, chiefly northeast and southwest, strongest in southwest; 2:12:34, aurora in band from northeast to south 15° above horizon, also faint patches in southwest; 2: 12: 42, aurora has almost disappeared in southwest; 2: 12: 50, aurora very faint; 2: 13: 10, aurora has disappeared; 2:16:58, 50 per cent clouded, no aurora; 2:18:04, 75 per cent clouded; 2:21:58, aurora in band from east to west through zenith, stronger in east; 2:22:06, aurora has disappeared .- 4: 20:00, moon visible through clouds during most of observations, very well defined halo.—6:00:44, decreased to 26d; 6:01:38, 90 per cent thin clouds; 6:03:12, sky overcast entirely; 6:05:50, clear sky.—7:08:00 moon has ill-defined halo, no aurora; 7:11:24, very faint aurora in vertical stripes from horizon up to 15°; 7:11:48, aurora just starting in northwest and north-northwest, one vertical stripe in each direction, 15° long, half way between horizon and zenith. -8: 14: 22, aurora in several bands from northeast to southwest through zenith; 8: 14: 34, aurora growing stronger to eastward; 8: 14: 46, aurora has almost disappeared; 8:15:06, aurora grows stronger to the eastward; 8:15:18, aurora grows weaker in the east; 8:15:28, increased to 36d.9; 8:15:38, aurora in well-defined arch from northeast to southwest, vertex of arch in southeast 15° above horizon; another arch later appeared above the first vertex southwest 50° above horizon.—9:00:00, aurora during axis observations; 9:02:16, wind rises; 9:03:32, high wind; 9:05:48, increasing, but stopped a moment here; 9:08:02, shoveling snow from entrance, no time for observers to alternate; 9:10:10, calm; 9:10:48, wind rises; 9:14:14, shoveling snow from entrance, stopped at 14: 24; 9: 18: 22, shoveling snow from entrance; 9: 20: 48, had to check needle with steel pin.— 10:17:10, increased to 56d.2; 10:17:14, decreased to 53d.7.—16:16:38, shoveling snow from entrance; 16:16:50, no time for more alternation on account of drift against door of hut; 16:21:30, checked with steel pin one minute before observation; 16:22:50, checked with steel pin one minute before observation.—17:16:00, partly cloudy.—18:22:20, aurora in snake-like clouds and streaks from southeast to southwest 20° above horizon, constantly changing position and shape; 18:22:32, aurora forms arch from east to west through zenith, also streak from south to west 15° above horizon; 18: 22: 58, aurora growing weak; 18:23:12, aurora in streaks southwest to west 15° above horizon; 18:23:42, aurora has disappeared.—21:08:08, aurora from zenith to northeast to north; 21:08:42, aurora has disappeared.—22:12:00, had to dig out entrance.—23:03:37, decreased to 33d; 23:03:50.2, 30 seconds for this oscillation; 23:07:32, 40-mile wind and drifting snow, had to dig out entrance: 23:12:52, aurora from northeast to southwest through zenith; 23:13:48, faint auroral light in north; 23: 14: 56, had to dig out entrance; 23: 15: 04, ten auroral streams from northeast, not very bright; 23: 18: 16, clear; 23: 21: 28, very faint aurora, streaked northeast to southwest; 23:21:34, aurora growing considerably brighter in east; 23:21:40, aurora has mottled appearance in east, practically gone in west; 23:21:56, aurora has disappeared entirely in west and increased in east, with vertical streamer from horizon to zenith in east and mottled appearance in south; 23: 22: 02, aurora has very much diminished to one small spot in northeast, with mottled appearance in southwest increasing; 23: 22: 08, checked motion with steel pin; 23:22:24, aurora has disappeared; 23:22:36, aurora east to west through zenith, partly mottled and partly moving streamers; 23:22:44, aurora growing stronger in west, snake-like streak in southwest from zenith to horizon, where it is mottled, very faint in north-east; 23:22:52; snake-like streak northeast to southwest through zenith, also a horizontal streamer 10° above horizon southeast to southwest; 23:23:28, aurora has disappeared.—25, observations were not taken on account special request of Mr. Fiala to be present at Christmas dinner.—26, the fibers were found broken, the suspension tube was taken to the dwelling-house to attach new fibers, meanwhile a strong blizzard came up preventing return to hut.—29: 14:46, clear, moonlight.—30:00:00, cloudy; 30:06:14, increasing to 38d in one minute; 30:06:22, stops at 29<sup>4</sup>.3; 30:06:46, stops at 22<sup>4</sup>.0 and then continues to decrease to 6:48; 30:07:04, reached 42<sup>4</sup>.5 after this reading; 30:07:08, rapidly decreasing to 9<sup>4</sup>.5; 30:07:10, increases to 61<sup>4</sup>.9; 30:06:20, faint aurora through zenith to southwest, fog all along horizon; 30:08:00, clouded all over; 30:09:54, increased to 39<sup>4</sup>.1; 30:09:24, faint aurora through zenith to northeast and southwest; 30:09:56, clear sky, no aurora; 30:13:16, clear and moonlight; 30:15:08, increased to 38d; 30:20:18, clear, moonlight, no aurora; 30:23:44, clouded over.—31:21:00, overcast and snowing.

January, 1904.—1:17:14, snowing.—3:00:00, clear, moonlight night, no aurora.— 4: 08: 00, clear, moonlight, no aurora; 4: 09: 58, scale increases rapidly. -5: 12: 14, temperature falling rapidly outside; 5:12:44, aurora in streak 15° above horizon from west to north; 5: 12: 50, faint aurora northeast to southwest through zenith; 5: 12: 56, aurora growing stronger, streak becoming wavy; 5:13:00, aurora growing stronger in northeast, now two streaks; 5: 13: 12, aurora a series of bands close together northeast to southwest through zenith, stronger in northeast; 5:13:24, aurora growing fainter, particularly in southwest; 5:13:32, aurora stronger in southwest; 5:13;44, aurora growing stronger in northeast; 5:14;02, aurora very faint; 5:14:08, aurora in broad band from horizon to zenith northeast, extremely faint in southwest from zenith to horizon in band; 5:14:16, aurora in three wavy bands from northeast to southwest through zenith; 5: 14: 54, aurora has entirely disappeared. -6: 04: 18, scale decreases unsteadily; 6:10:00, high wind, snowing; 6:13:08, wind moderating; 6:16:28, calm: 6:16:20, overcast; 6:16:36, snowing; 6:18:50, calm, overcast, light snow; 6:21:14, temperature rising very rapidly outside.—7: 16:00, easterly wind, about 35 miles an hour; 7: 19:42, calm.—8: 20:00, easterly wind, about 25 miles an hour.—10:00:26, faint aurora, north wind, 20 miles; 10:06:06, after this small oscillation scale continues to increase.— 11:08:30, aurora northeast to southwest through zenith.—12:12:00, overcast and foggy; 12:15:28, aurora, faint, northeast to southwest, one arch with vertex 60° above horizon in southeast, another streak parallel to arch and above it ending in zenith; 12: 15: 40, streak and arch have united to form one broad band stronger in northeast.—13:03:10, magnet vibrating up and down; 13:03:14, vertical vibrations have ceased; 13:04:16, magnet vibrating up and down; 13:04:20, clear, light fog on horizon; 13:04:28, vertical vibrations have ceased; 13:05:16, magnet checked with adjusting pin; 13:06:22, clear and calm; 13:07:50, scale continues to decrease after reading of 56°.5 taken; 13:13:44, arc-shaped aurora from northeast to northwest; 13:14:56, aurora still northeast to northwest and bulk increased by about two: 13: 15: 40, aurora has disappeared; 13: 16: 16, faint aurora north to west in arch northwest 10° above horizon; 13:16:32, aurora very faint; 13:17:40, aurora has practically disappeared; 13: 20: 04, faint aurora in streak, northeast to southwest, stronger in northeast; 13: 20: 24. aurora has disappeared entirely in southwest; 13:20:32, aurora in two arches northeast to southwest, vertices of both in southeast, the one 20° and the other 50° above the horizon: 13:20:48, aurora in broad irregular band, northeast to southwest through zenith; 13:21:28, aurora has disappeared; 13:22:26, aurora reappears in two streaks from northeast to south 10° above and parallel to horizon, changing rapidly to mottled appearance; 13:22:30, aurora from zenith northeast to south, snaky streamers with transverse rays; 13:22:38, aurora extremely faint; 13:22:44, aurora grows stronger; 13:22:56, aurora very faint; 13:23:16. 78d.7 estimated; 13:23:36, aurora growing faint.—15:20:00, clear sky; 15:21:32, hazy along horizon: 15:21:38, overcast.—17:00:00, overcast.—19:12:00, one fiber of the suspension broken during observations this day, but it apparently does not touch tube.--20: 00: 00, broken fiber removed before observations, magnet remaining suspended by but three fibers; 40 mile wind from southeast, drifting snow; 20:00:26, magnet checked with adjusting pin; 20:07:46, shoveling snow from entrance; 20:17:04, very faint aurora in spots west to south 10° above horizon; 20: 18: 18, overcast; 20: 20: 22, calm.—22, observations omitted this day on account of blizzard, wind being 60 to 70 miles per hour.—23: 20:00, partly cloudy; 23:21:36, aurora in irregular band from east to south and from horizon to 10° above horizon; 23: 21: 46, aurora growing stronger and moving considerably; 23: 22: 06, strong aurora from zenith to horizon northeast to south, stronger in east and moving rapidly; 23: 22: 14. aurora from zenith in all directions, moving rapidly; 23: 22: 24, aurora fainter, it is now in the northeast and southwest to south; stronger in southwest to south, where it consists of snaky clouds; 23:22:46, aurora fainter; 23:22:58, aurora in irregular moving circular streaks having their centers in zenith; 23:23:18, aurora in irregular, snaky streak from zenith to northeast and southwest; 23:23:34, aurora in irregular streaks and spots in all parts of the sky; 23: 23: 56, scale decreases, stopped here and then continues to decrease.—24: 02: 22, wind rising; 24:03:46, foggy, except in zenith; 24:05:18, wind light; 24:06:30, calm, cloudy, snow.—25:08:00, overcast.—26:12:00, partly cloudy, wind southeast, velocity 35 miles; 26:13:20, calm.—27:00:00, clear, moonlight night, light wind, no aurora; 27:10:36, hazy 10° above horizon; 27:12:00, sky hazy; 27:14:18, sky clear, except in the south; 27: 14: 56, scale decreases; 27: 16: 14, calm, clear, moonlight; 27: 19: 30, thin clouds, stars and moon visible, light wind from east; 27: 19: 50, instrument slightly out of level; it was probably leveled by striding level which appears level at present but probably has thin snow particles on axis; instrument not disturbed by attempting adjustment since level but slightly out; fiber hangs free in center of tube; 27:21:40, magnet starts from its quiet phases; calm, moonlight, faint clouds all over sky but stars visible through them; 27:22:30, scale suddenly increases to this: 27:24:02, striding level taken off, cleaned, reversed and found to be in good adjustment; the plate level is slightly out of adjustment; the wyes appear clear.—28: 16:00, plate level adjusted before observations began; 28:16:12, very faint aurora northeast from horizon to zenith; 28: 16: 54, aurora has disappeared; 28: 17: 06, very faint aurora in southwest, zenith to horizon; 28:17:46, aurora has disappeared; 28:18:56, aurora in irregular horizontal streak south to southwest 10° above horizon; 28: 19: 04, no aurora; 28: 19: 26, after this scale increased to 326.8; 28:19:36, aurora in irregular horizontal streak northeast to east 10° above horizon; 28:19:44, aurora northeast zenith to horizon; irregular horizontal band southeast to south-southwest 10° above horizon; 28:19:52, aurora stronger from zenith in all directions northwest to southwest, horizontal streak northeast 10° above horizon.—31, magnet was dropped on floor in afternoon; 31:01:52, wind rises, no aurora.

February, 1904.—2:12:20, calm, overcast; 2:14:38, scale increased to 38<sup>d</sup>.9.—3:00:02, scale decreased to 45<sup>d</sup>.0, then increased to 66<sup>d</sup>.0; 3:00:44, scale stopped a moment here and then continued to 70d; 3:00:50, scale reached 40d on this swing; 3:01:38, wind has risen; 3:05:12 and 14, scale increases very slowly; 3:07:30, decreasing slowly and irregularly; 3:07:36, wind in squalls, clear in north, moon visible, stars visible in north; 3:07:44, shoveling snow from entrance; 3:08:22, high wind through 20:00; 3:14:46, cloudy; 3:15:50, shoveling snow from entrance; 3:18:50, wind very strong, at end observations wind light, from northeast.—4:16:00, high wind, clear overhead, cloudy in south; 4:19:02, almost

calm, clear overhead, hazy to 30° above horizon.—5:21:06, scale stopped here, then decreased: 5:21:18 to 22, unable to check magnet with pin, had to stop motion with block and then check with pin; 5:22:10, aurora in northeast and zenith of irregular shape, light wind, clear overhead; 5:22:38, aurora faint in east; 5:23:12, aurora in faint streaks from zenith to northeast and east.—7:00:06, hazy 20° above horizon, aurora in south; 7:00:24, faint streaks of aurora in south and north; 7:01:08, arc-shaped aurora from zenith to northwest; 7:01:24, scale decreasing; 7:01:44, aurora has disappeared, sky overcast, calm, few stars to be seen; 7:02:28, faint streaks of aurora from northeast to zenith, more stars visible; 7:03:34, no aurora visible, calm, sky hazy; 7:04:34, scale increasing; 7:04:42, scale increasing.—9: 14: 42, daylight ends, about 5 hours' duration; 9: 15: 24, very faint aurora in northeast.—10:00:00, faint aurora in south at 10° altitude, bank of clouds below; 10:01:06, scale increasing but does not pass 48<sup>d</sup>.2; 10:01:52, scale reaches 45<sup>d</sup>.5 at 1:53; 10:03:50, scale quiescent at 35d.1 and then continues decreasing almost imperceptibly; 10:07:28, wind of 10 miles velocity from southwest, cloudy, no aurora; 10:08:22, scale decreased to 42d.0; 10:08:34, scale increased about 7 divisions; 10:09:24, scale increasing; 10:10:50, scale decreasing; 10:12:44, scale increases to 55°.0; 10:16:38, overcast; 10:22:12, scale decreasing rapidly; scale reads 17d. 1 at 22:14.4; 10:22:54, decreasing off scale.—11:19:34, brilliant aurora from northeast to southeast.—12: 20:00, sky clear, no aurora; 12: 22: 56, bear trying to break into observatory: 12:23:20, aurora in southeast; 12:23:40 to 48, observer investigating outside to see if bear is gone.—14:00:00, cloudy, light wind; 14:06:18, scale increased to 60d.1.-17:01:08, scale decreasing to 21d.2; 17:01:42, scale increased to 64<sup>d</sup>.5; 17:01:56, scale decreasing; 17:03:00, high wind during balance this day's work; 17:03:40, scale decreasing; 17:05:58, scale decreasing to 41d.0 after 5:00; 17:06:42, magnet checked with adjusting pin; 17:07:02, increasing; 17:07:42, shoveling snow from entrance: 17:08:38, daybreak; 17:08:42, magnet oscillating vertically, hut perfectly steady in high wind; 17:08:58, vertical oscillation has ceased; 17:12:08, shoveling snow from entrance; 17: 16: 05, no more alternating on account of snow drifting against entrance to hut.—18: 17: 48. faint aurora in northeast, wavy streak from horizon to zenith; 18:18:22, aurora northeast to southwest through zenith; 18:18:48, after this oscillation scale decreased to 30d.o; 18:18:52, aurora much stronger in northeast where it consists of many irregular bands; 18: 19: 48, after this scale increased to 42d.8; 18:20:00, magnet dropped from top of pier to floor.—19, high wind throughout observations this day.—20:00:56, very faint aurora.—23, duration of daylight, 8 hours.—24, clear and calm at beginning of observations, wind rising to 60 miles an hour at 7:10 and continuing until about 14:00, when it began to slacken, being light at end of day's work: 24:07:30, J. V. enters hut, has two small iron rings on person, these are removed; 24:08:08, reading increased on next oscillation to 55d.2; 24:10:32, magnet checked with adjusting pin; 24:16:00, temperature rising rapidly outside all day; 24:16:58, daylight ends; 24: 19: 26, magnet vibrating up and down; 24: 21: 48, scale increasing to 55d.8 at 21:40.8; 24:21:52, very faint aurora east to southeast; 24:22:38, aurora becoming much stronger and extending from east to south.-28:00:00, sky overcast, revolver placed for first time in far end of sight shaft; 28:00:56, pocket knife found on person and removed; 28: 05: 26 and 28, scale increasing.

March, 1904.—1:12:00, partly cloudy and snowing; revolver not taken to hut.—2:00:00, revolver not taken to hut; occasional gusts of wind; 2:06:14, daylight begins; 2:12:26, wind increasing; 2:14:18, wind diminishing, clear; 2:16:14, light clouds in south, balance sky clear, moderate wind; 2:17:22, daylight ends; 2:19:00, sky clear, wind very light; 2:20:00, moon rises in east with very distinct four-armed cross through center; 2:20:16, scale increased to 66d.0; 2:20:20 and 24, magnet checked with adjusting pin; 2:20:30, irregular spiral aurora

in south and zenith; 2:20:42, very light wind, faint aurora in south, cross still in moon; 2: 20: 52, aurora from zenith to east and west; 2: 21: 12, faint aurora in west, dark clouds in east and west; 2:21:38, aurora has disappeared, partly cloudy in east, wind light.—3:16:00, revolver not taken to hut; high wind.—4: 20: 00, revolver not taken to hut, aurora in north: 4: 20: 46, passage to vestibule drifted in so much that observer cannot very well observe weather conditions or aurora.-6, preparations for sledge journey being completed, no time to carry out observations this day. -7, sledge party left this A. M. -9:06:26, observations interrupted by failure of light.—13:02:46, magnet vibrating up and down; 13:04;02, daylight begins; 13:06:36, increasing but stopped a moment at this reading.—16:03:42, daylight begins; 16:08:18, magnet taken out and replaced (not being level in stirrup either way); 16:12:00, clear overhead, light fog on ice field; 16: 12: 32, scale increasing almost imperceptibly; 16: 16: 32. observer can see no cause for this jump of needle; 16:21:18, daylight ends; 16:22;22, sky clear; 16:22:54, aurora from northeast to zenith increasing in intensity; 16:23:10, very faint aurora in zenith and southwest.—17:16:00, instrument removed from pier in morning to clean grooves in which foot-screws set.—18: 22:00, wind velocity about 20 miles an hour, sky hazy.—20:00:00, instrument cleaned in morning, revolver not taken to hut; 20:03:28, daylight begins.—21:11:36, revolver not taken to hut; owing to 60 to 70 mile wind hut could not be reached before 11:30.—22:12:00, revolver not taken to hut; 22:14:21, checked magnet with adjusting pin, -23; 00: 00, revolver not taken to hut; 23: 00: 06, magnet checked with adjusting pin; 23:03:18, daylight begins; 23:05:30, wind ceases; 23:06:46, wind in gusts; 23:08:58, light northerly wind, sky cloudy; 23:15:54, wind from northwest; 23:16:04, trouble with light cause of delay in observations; 23: 22: 06, sufficient light to see dwelling distinctly through flying snow; 23: 23: 18, daylight ends.-24: 16:00, revolver not taken to hut. -25: 24: 10, fiber broke. -26: 11: 30, put in four new fibers. -27: 02: 46, daylight begins; 27:05:22, decreased to this, stopped, and then increased.—28:08:00, fibers found broken; three new fibers put in and observations started as soon as torsion taken out; fibers again broken during intensity observations and replaced by four new fibers at 23:00.-29: 13: 54, scale increased to 57<sup>d</sup>.4 at 13: 55.2.—30: 00: 00, sky partly cloudy, north-northeast wind of velocity 48 miles per hour; 30:00:12, observer found tin box in pocket and put same away where would not affect instruments; 30:06:00, wind decreasing; 30:12:41.7, scale reached 28d.7, decreased steadily, stationary for a moment at 16d.8, decreased to 10d.0 after reading at 12:46, then increased to 18d.7, and then oscillated as shown at 12:50; 30:15:04, scale decreased to 11d.6; 30: 15: 54, magnet vibrating up and down; 30: 20: 02, scale increased to 22d.9, stopped, decreased to 22d.1; 30: 20: 10.6, scale increased to 51d.7; 30: 20: 38, increased to 49<sup>d</sup>.1, stopped, then increased to 51<sup>d</sup>.9 at 20: 38.9; 30: 20: 44, scale decreased to 38<sup>d</sup>.7, stopped, then decreased to 34d.9 at 20:44.2; 30:20:46, then increased to 36d.2; 30:21:13, scale increased to 26<sup>d</sup>.2; 30: 21: 14, decreasing to 28<sup>d</sup>.1; 30: 21: 40, reading 6<sup>d</sup>.4 estimated; 30: 21: 46, daylight ends.

April, 1904.—1:20:00, revolver not taken to hut; 1:20:06.5, decreased to 28d.0.—3:00:00, revolver not taken to hut; 3:00:36.4, scale increased to 78d.1; 3:00:38, scale decreased until passed out of field of view; 3:02:26, daylight begins.—4:08:00, revolver not taken to hut; 4:10:58, scale increased to 72d.9.—5:12:00, revolver not taken to hut.—6:02:00, sky clear, calm; 6:16:14, instrument slightly out of level.—7:16:00, sky clear, calm.—8:20:00, sky clear, light north wind.—10:02:08, scale decreased to 65d.2; 10:03:20, scale increased to 52d.2; 10:05:44, reading 78d.7 estimated.—11:08:00, northeast wind of 40 miles per hour velocity.—12:12:00, revolver not taken to hut; 12:12:08, magnet oscillating up and down.—13:00:00, light southwest wind; 13:07:00, wind south, hazy, light snow; 13:09:12, from quiescence scale decreased; 13:16:59, scale now 20d.6.—

14: 16: 00, sky clear, light north wind.—15: 22: 20, light east wind, hazy around horizon.—17: 04: 10, magnet checked with adjusting pin; 17: 07: 02, scale increased to 31°.3; 17: 07: 06, scale decreased to 6°.7; 17: 07: 08, scale increased to 32°.9; 17: 07: 12, scale increased to 46°.8; 17: 07: 20, scale decreased to 29°.3.—18: 08: 00, sky hazy, wind variable.—19: 12: 00, revolver not taken to hut, calm, sky clear; 19: 15: 10, southeast wind rising.—20: 00: 00, revolver not taken to hut, southeast wind of velocity 45 miles an hour, drifting snow; 20: 07: 54, wind velocity now 60 miles an hour.—21: 16: 00, revolver not taken to hut, wind southeast and east in gusts; 21: 18: 10, magnet oscillating vertically.—22: 20: 00, revolver not taken to hut, wind from southeast.—26: 12: 00, revolver not taken to hut, wind northwest.—27: 00: 00, revolver not taken to hut, wind northwest.—27: 00: 00, revolver not taken to hut, wind northwest sky clear, light northwest wind; 27: 11: 18, no apparent cause for this movement of magnet; sky clear, light northwest wind; 27: 13: 20, calm.—28: 16: 00, after this date revolver no longer taken to hut, wind from northeast.—29: 20: 00, wind light north to calm.

May, 1904.—1:00:00, sky clear, wind light north to calm.—2:10:42, reading increased off scale to about 79d; north wind.—3: 12: 18, scale decreased to 49d.3; wind north-northeast to north; 3:13:30, scale decreased to 30<sup>d</sup>.8; 3:13:34, scale increased to 39<sup>d</sup>.9.—4:00:00, calm; 4:03:50, partly cloudy around horizon; 4:08:02, calm and clear; 4:09:34, clouding up; 4:12:48, scale increasing almost imperceptibly, but returns to reading at 12:51; 4:12:56, scale increasing very slowly to 78d.6 and returns to reading at 12:58; 4:14:50, sun breaking through clouds, clouds disappearing; 4:17:20, sky again overcast; 4:22:00, scale decreased to 35d.o; 4: 22: 12, scale decreased to 37d.1; wind from northeast.—5: 16:00, wind from north-northeast.—6: 20: 00, wind from northeast, sky overcast, snowing.—8: 00: 00, wind calm to east: 8:03:38, reading 79.40 estimated.—9:08:00, wind from southeast to east.— 10:12:00, wind from southeast to calm.—11:00:00, sky overcast, wind from south; 11:08:54, wind has shifted through east-southeast to east, clouds mostly in horizon; 11:09: 14, scale increasing from 21d.6 to 22d.8, then quiescent; 11: 10: 24, sky again completely overcast; 11:12:10, sun breaking through clouds; 11:16:10, scattering cirro-cumulus clouds, wind has subsided; 11:23:56, magnet oscillating vertically.—12, wind from east.— 13: 20: 00, in turning magnet stirrup slipped and made several turns in fiber, it took until 20: 00 to recover plane of detorsion; wind calm; 13: 20: 18, magnet checked with adjusting pin; 13:20:36, observer found a pocket knife on his person; the same was removed outside of hut between 20:36 and 20:38.—15, wind from north; 15:02:42, scale decreasing; 15:06:06, scale increased to 40<sup>d</sup>.7; 15:07:36, reading 7. do estimated.—17, wind from northnorthwest.--18, wind from east, northeast, and north; sky overcast generally throughout observations; 18:06:12, scale increasing; 18:09:54, sun appears for a short time.—19, wind from north-northeast to north.--20, wind north, snow; 20: 20: 15.8, scale increased to 67d.o.—22, northeast wind.—23, northeast wind; 23:11:47.6, scale decreased to 22d.3.— 24, northeast wind.—25, sky overcast, light southeast and east wind, snowing; 25:11:38, scale increasing to 42d.6; 25:13:46, scale decreased to 31d.6; 25:13:48, scale increased to 37d.o and then decreased to quiescence at 13:50.—26, sky overcast, variable wind.—27. east to south wind, snowing at end.—29, sky overcast, light east-southeast wind increasing in strength to east wind and snow at end; 29:01:26, magnet checked with adjusting pin; 29: 07: 36, scale increasing.—30, west-southwest wind; 30: 08: 04.4, scale decreased to 57d.9. -31, southwest to south-southeast wind at end.

June, 1904.—1, sky overcast, variable winds; 1:00:14, scale decreasing; 1:05:48, scale increasing; 1:06:29.1, scale decreased to 16<sup>d</sup>.9 and then increased steadily to 64<sup>d</sup>.1 at 6:32.2;

1:06:41.9, scale increased steadily to 60d.9 at this time; 1:10:38, fog on horizon; 1:22:00. scale decreased to 53d.2.-2, cloudy, strong east to north wind.-3, sky generally overcast, southeast wind.—5, east wind to calm; 5:04:59, scale decreased to 55d.5 at this time; 5: 05: 45.2, scale decreased to 20<sup>d</sup>.4 at this time.—6, east-southeast to south-southwest wind.— 7, south-southeast wind; 7: 12: 18.5, scale increased to 64<sup>d</sup>.1; 7: 14: 12, reading 79<sup>d</sup>.3 estimated.— 8, southeast to southwest wind at end, generally cloudy; 8:04:35, scale increased to 76<sup>d</sup>.g; 8: 05: 58, scale increasing to 52<sup>d</sup>.1; 8: 05: 59.3, scale increased to 61<sup>d</sup>.0.—9, southwest wind, snowing, sky overcast, hazy.—12, east to south-southeast wind, sky overcast; 12:04:04. scale increasing; 12:06:22, scale decreasing.—13, east-southeast wind; 13:08:40.5, scale increased to 55<sup>d</sup>.9.—14, easterly wind of velocity 40 to 50 miles per hour; snow.—15, sky overcast, east to northeast wind at end; 15:07:44, scale increasing; 15:10:06, scale increases to 55°.6, becomes quiescent and then continues to 56°.3; 15:14:02, scale decreases to 59°.3; 15: 15: 30, first rain of the season begins.—16, west-northwest wind; cloudy; drifting snow.— 17, cloudy; west wind.—19, southeast, east, calm to south wind, partly cloudy; 19:03:40, light fog; 19:05:22, scale increased to 52d,0, fog gone; 19:05:24, scale increasing; 19:05:26, scale decreasing; 19:06:58, strong south wind.—20, calm to northeast wind.—21, eastsoutheast to east wind.—22, sky clear, calm.—23, light east-southeast wind.—24, calm.— 26, east to southeast to south-southeast wind, cloudy; 26:03:38, raining; 26:06:22, fine hail.—27, southeast wind.—28, partly cloudy, calm.—29:09:00, calm, foggy, cloudy; 29: 14: 40, scale increases to 48<sup>a</sup>.5, then decreases to quiescence; 29: 19: 54, clear overhead, variable wind; 29:21:50, east-southeast wind increasing rapidly.—30, southeast wind.

July, 1904.—1, sky overcast, snowing, northwest wind; 1:21:22.7, scale increased to 53<sup>d</sup>.o.

## MAGNETIC OBSERVATIONS

# TABULATION OF MAGNETIC DECLINATIONS OBSERVED AT

TEPLITZ BAY STATION, RUDOLPH ISLAND
FRANZ JOSEF ARCHIPELAGO
SEPTEMBER 28, 1903, TO JULY 1, 1904

NORTH LATITUDE: 81° 47'.4

LONGITUDE EAST OF GREENWICH: 3 h 52 m

Tabulation of magnetic declinations observed at Teplitz Bay

Mond	lay, Se	ptembe	r 28, 19	003			Magne	et scale	erect	Tues	lay, Se	eptembe	er 29, 19	03		M	agnet s	cale inv	erted
Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Тетр. С.	Chr'r time	read	cale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Тетр С.
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12 14 16 18 20 22					12 14 16 18 20	46.0 44.8 44.3 43.7 45.3 44.6	46.3 46.0 45.3 44.4 45.6 45.6	37 36 35 33 36 35	-1.4	12 14 16 18 20 22	43.4 42.2 43.8 37.6 41.5 42.6	41.9 38.5 41.3 35.0 39.1 41.2	52 55 22 52 23 01 22 55 53 48	-2.1	12 14 16 18 20 22	49.3 47.6 45.6 47.3 48.6 48.4	46.3 44.6 43.8 44.5 46.4 46.6	44 46 48 46 44 44	-2.0
24 26 28 30 32	54·5 53.6 48.6	57.8 55.0 50.4	22 52 50 42	-2.9	24 26 28 30 32	45.0 45.3 45.4 44.9 44.3 43.3	45.9 45.6 46.5 46.1 45.9 45.0	35 36 36 36 36 35 35		24 26 28 30 32	45.5 42.3 51.8 55.6 57.0 67.0	43.8 40.4 48.3 51.0 52.3 57.8	48 54 40 35 33 21	-2.0	24 26 28 30 32 34	46.3 45.3 45.4 46.7 44.0 44.0	44.5 44.7 43.9 44.7 42.5 42.6	47 48 48 47 51	-1.8
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44 46 48 50 52 54 56 58	43.4 43.6 46.0 48.0 45.6 45.5	47.5 47.8 49.3 50.8 49.0 48.5	36 36 39 42 38 38	-2.4	44 46 48 50 52 54 56 58	41.0 45.2 44.3 40.6 37.0 37.2	44.5 48.0 46.9 43.8 41.3 40.6	31 38 36 30 26 25	-I.O	44 46 48 50 52 54 56 58	55.0 60.8 62.4 60.0 57.7 60.4	50.9 50.4 57.9 56.3 55.0 58.7	36 31 24 27 30 25		44 46 48 50 52 54 56 58	45.5 44.5 44.9 45.6 46.7 46.5	43.0 43.2 43.3 43.6 43.0 43.0	49 50 49 48 48 48 48	
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08 10 12 14 16	45.9 48.0 47.0 46.9 49.5	47.8 50.4 50.7 49.8 52.4	42 41 40 44	-2.2	08 10 12 14 16		43.0 44.0 R. T.	30 32		08 10 12 14 16	60.9 57.7 58.4 59.0 59.7 60.2	59.1 56.5 55.8 55.6 56.2 58.2	24 29 29 28 28 26	-1.8	08 10 12 14 16 18	48.2 48.0 48.8 51.1 54.5 55.3	45.0 45.2 46.2 48.1 50.8 50.8	45 45 44 41 36 35	-1.3
18 20 22 24 26 28	48.2 49.8 50.6 51.0 58.0 59.2	50.3 52.0 52.5 52.4 61.3 61.5	42 44 45 45 58 22 59	-2.I	20 22 24 26 28	12h	o2m end			20 22 24 26 28	61.4 57.0 53.5 55.9 54.5	59.5 56.2 53.3 54.8 52.5	24 30 35 32 35 38		20 22 24 26 28	52.5 54.0 54.8 56.5 54.5 49.1 46.8	48.5	39 37 36 37 40	
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40 42 44 46 48 50 52 54 56 58	45.2 46.3 44.4 41.6 44.0	47.5 48.0 45.2 43.6 44.3	39 39 37 38 35 31 34 36		40 42 44 46 48					40 42 44 46 48	50.6 46.7 48.0 38.3 36.8	49.1 44.7 45.3 37.5 36.6	40 47 45 22 59 23 01	-2.0	40 42 44 46 48 50 52 54 56 58	43.5 42.0 43.0 43.4 36.9 41.6	40.4 41.5 38.6	50 54 52 22 54 23 03	-r.
50 52 54 56 58	45 · 5 45 · 3 48 · 2 50 · 0	46.3 47.0 49.3 51.4 49.0	36 37 41 44 40	-2.0	50 52 54 56 58					50 52 54 56 58	44.4 41.3 41.8 43.2 44.6	43.6 40.5 41.5 43.0 43.4	22 50 54 53 51 50		50 52 54 56 58 16 00	36.9 42.8 44.7 44.4 46.1	35.2 39.5 42.2 43.0	22 57 23 02 22 54 51 50 47	

Correction to local mean time is + 3h 52m 32s.

Torsion head at 9h 30m read 12° and at end read the same.

Observers—R. R. T. and W. J. P., who alternated from 9h 58m to 10h 18m.

Correction to local mean time + 1m 40s. Torsion head at 11h 55m read 327° and at end read the same. Observers—W. J. P. and R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedr	esday,	Septe	mber 30	, 1903			Magne	t scale	erect	Wedi	nesday,	Septe	mber 30,	1903		Magn	et scale	erect
hr'r ime	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	
m	d	d	0 ,		h m	d	đ	. ,	۰	h m	đ	đ	0 ,	0	h m	d d	۰,	0
00 02	47.2 47.3	49.0 49.5	22 16 16	-5.2	2 00	51.6 51.9	52.9 53.4	22 52 52	-3.6	4 00 02	65.8	67.7 68.4	23 14 16	-5.1	6 00	56.2 58.0 71.3a	22 59 23 22	-5.
04	49.8	52.0	20		04	53.3	54.7	54		04	63.1	64.4	09		04	59.4 60.6	04	
)6 )8	49.3 51.3	51.4 53.0	19 22		06 08	53.0 53.6	54.2 55.0	54 55		06 08	61.1	62.5 61.9	06 05		o6 o8	59.6 62.3 63.9 64.9	05	
0	56.5	59.0	31		10	54.7	56.4	57		10	64.9	66.8	13		. 10	64.6 65.0	12	
2 4	58.0 58.2	61.0 61.0	34 34	-5.4	12 14	56.0 55.8	57.1 56.8	57 58 58 58	-3.7	12 14	66.5	68.5 72.2	15 22	-5.2	12 14	59.1 60.8 58.2 62.3	04	
6	57.6	60.4	33	3.4	16	56.0	57.2		3.7	16	66.0	66.2	23 13	3.2	16	56.2 58.4	00	
8 0	58.0 59.4	60.5 62.0	33		18 20	56.3 54.1	57·4 55.0	59 55		18 20	54.6 55.6	56.8 57.2	22 57 22 58		18 20	68.7 70.5 61.9 63.5	19	
2	60.3 59.8	63.2	37	1	22	53.7	54.7	55		22	57.8	59.4	23 02		22	66. ia	13	
4 6	59.8	62.3 63.2	35 37 36 38 36 35 36 38 34 37 38		24 26	51.7 52.6	52.6 53.4	52 53		24 26	55.1 60.9	57.0 61.4	22 57 23 05		24 26	58.9 62.4 73.2a	05	
3	59.9	62.3	36		28	53.4	54.8	54		28	64.4	64.8	23 03	l	28	55.7 58.0	23 24 22 59	
0 2	59.6 60.4	61.8 62.4	35	-4.8	30 32	51.2 48.6	52.2 50.0	51 47	-3.3	30 32	61.7 64.4	62.2 65.6	07 12	-5.o	30 32	71.8 72.8 60.0 63.2	23 23 23 06	-5.
4	61.3	62.7	38		34	47.5	48.9	45		34	62.6	64.0	09		34 36	53.7 56.0	22 56	
4 6 8	59.6 61.1	60.5 62.4	34		34 36 38	46.5	47.9 47.0	44 42		34 36 38	67.7	68.3 64.3	16 10		36 38	57.3 60.4 59.6 64.8	23 02	
0	61.8	62.3			40	45.3	46.7	42		40	61.9	64.0	08		40	56.1 65.5	07 05	1
2 1	63.0	63.3 66.8	39 45	-4.4	42 44	46.7	47·7 45.3	44 40	-3.8	42 44	62.7	64. I 64. 3	09 09	-5.1	42 44	61.7 62.0 65.8 67.3	07 23 14	-5.
) }*	69.0	70.0	49	7.7	46 48	43.3	45·3 43.8	40 38 38	3.0	44 46 48 50	64.2	64.6	10	3.1	44 46	50.4 51.3	22 49	2.
) )	48.5 48.6	50.9	48 48		48 50	43.3	44.2 43.0	38 36		48 50	64.9	67.0 63.8	13 08		48 50	61.8 62.2 65.2 66.2	23 07	
;	51.8	54.8	53		52	42.3 40.8	41.3	34		52	57 - 4	59.0	OI		52	64.2 66.0	12	
	48.5	50.2 56.6	39 45 49 48 48 53 47 55 57 56 46		54 56 58	41.5	42.0 44.3	35 38		54 56	58.5 61.7	60.4 63.9	03 08		54 56	58.3 60.5 63.0 66.1	03	
,	54.I	57.4	57		58	46.1	44.3 46.8	42 46		58	57.I	бо.о	23 OT		58	61.6 63.3	08	
	52.8 47.3	56.9 50.2	56 46	-3.8	3 00	48.6	49.4 51.2	40	-4.2	5 00	53.9 54.8	56.7 57.8	22 56 58	-5.o	7 00 02	59.9 62.4 66.2 66.8	06 14	-5⋅
	46.5	49.2	45		04 06	51.9	53.3	52		04	54.7	58.1	58		04	58.9 63.8	06	
	46.2 47.6	48.6 49.5	44 46		00	52.5 53.7	53.6 54.4	53 54		06	52.9 54.3	57·4 58.0	22 56 58 58 56 58	ļ	o6 o8	62.3 64.9 55.7 59.5	09	
)	44.5	45.4	40	1	10	54.8	55.6	54 56		10	51.9	55.4	54		10	58.5 59.7	02	
2 4	44·3 50.4	46.0 51.8	40 50	-3.6	I2 I4	56.5	56.5 59.8	22 58 23 03	-4.3	12 14	52.4 54.9	54.8 58.3	54 58	-5.o	12 14	70.3a 56.8b	23 20 22 59	
,	47.6	48.9	45 46		16	59.I	59.8	03.		16	55.9	58.5	59 58	3.0	16	63.2 64.2	23 10	-5.
3	47.9 51.8	49.1 54.5	53		18 20	58.4	59·3 59·4	02 02		18 20	54.2 56.2	58.0 58.0	58 50		18 20	60.3 62.0 62.4 63.2	06 08	
2	49.7	51.5	49		22	59.0	59.9	03		22	52.9	55.7	59 55		22	62.2 63.1	08	
4 5	50.3 47.4	52.4 48.8	50 45		24 26	60.8	61.5	05 07		24 26	52.0 52.8	54.3 54.8	53 54		24 26	64.9 68.1	14 08	
3	44.4	46.2 48.8	45 41 45	-2.4	28	62.4	63.2	o8		28	54.0	55.8	54 56 56 53 48 48		28	64.9 68.1 62.2 63.2 66.5 67.4	14 08	
•	47.4 49.1	51.7	45 49	-3.4	30 32	63.1 63.9	63.9 64.9	09 10	-4.5	30 32	54·3 51.3	55.4 55.0	56 53	-5.o	30 32	61.9 63.0 66.0 66.8	08	<b> </b> −6.
Į	47.I	49.4	45		34	63.3	64.2 64.8	09		34	51.3 48.3 48.3	51.8	48	1	34	61.9 63.0	14 08	
3	48.2 51.7	50.0 53.6	47 52		34 36 38	64.2 65.8 64.8 64.8	66.8	11 14		30 38	48.3 49.0	52.3 52.9	48 50		34 36 38	63.3 64.7 62.4 63.2	10 80	
0	51.0	53.3	51		40 42	64.8	64.8	II		40	48.0	51.7	50 48		40	64.2 66.3	12	
2 4	48.4 48.3	50.4 50.7	47 47 48	-3.5	42 44	64.2	65.2 64.8	12 11	-4.8	42 44	51.6 56.0	54.8	22 53 23 OI	-4.0	42	64.2 65.3	10	-6.
6	49. I	51.0	48		44 46 48	62.1	62.8	07		34 36 38 40 42 44 46 48 50	56.9 50.8	59.7 58.8	22 56	-4.9	44 46 48	67.2 68.2	16	
0.	50.5 49.7	52.4 50.2	50 48		50	62.2 61.4	62.8 62.6	08 07		48 50	59.3 53.6	63.0 55.3	23 06 22 55		48	66.2 69.5	16	
32 34 58 58 58 59 58 59 58 59 59 59 59 59 59 59 59 59 59 59 59 59	49.9	51.2	49 52		52	61.2	62.3	<b>o</b> 6		52	52.3 61.1	54.1	22 53		50 52	66.9 70.8	17 18	
6	51.7 52.2	53.0 53.8	52 53		52 54 56 58	57·5 57.8	58.0 59.1	00 01		52 54 56	61.1 63.2	62.0 65.4	23 oб 10		54 56 58	65.5 68.1 66.2 67.8	14	
;8		54.7	54		58	63.5	64.3	10		58	56.9	59.4	10	l	58	64.2 64.8	15 11	

Observers—W. J. P. and R. W. P., who alternated from oh 16m to oh 18m.

Observers-R. W. P. and R. R. T., who alternated 4h 18m to 4h 28m

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

'hr'r ime	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.	Chr'r time	reac	ale lings Right	East decli- nation	Tem <sub>j</sub> C.
m 00 02	d 64.4 71.0 36.3	d 67.5 71.5	23 I3 23 2I	° -7.0	h m 10 00 02	d 9.4 15.3	d 11.3 18.3 18.8	21 46 56	° -7.6	h m 12 00 02	d 49.5 50.5	d 52.1 53.5	22 34 36	-6.6	h m 14 00 02	d 42.8 41.1	d 47.8 46.0	22 26 23	-7.1
04 06 08 10	37.6 35.9 32.0 35.2	37.3 40.0 37.8 35.5 38.2	22 27 30 27 22 27		04 06 08 10	17.5 12.7 16.5 12.9 14.6	18.8 14.7 19.1 16.4 18.3	58 51 58 52 55		04 06 08 10	50.7 56.2 51.7 43.0 38.3	53.7 59.3 53.4 44.9 40.7	36 45 37 23 17		04 06 08 10	37·3 41.2 42.9 44·4 47.0	42.7 45.3 47.2 48.2 50.6	17 22 25 27 31	
14 16 18 20 22 24 26	36.6 34.2 40.8 33.8 38.0 35.3	39.8 37.3 45.0 38.3 40.0 36.3	30 26 37 26 31 26 18	-7.0	14 16 18 20 22 24	13.7 13.0 16.0 12.8 12.5 14.3 8.8	16.3 16.5 21.2 17.0 16.4 18.5	53 53 59 53 52 55	-7.8	14 16 18 20 22 24 26	40.0 46.2 48.3 45.2 49.3 43.9	42.7 47.7 50.8 46.4 51.8 46.4	20 28 32 27 34 25	-6.6	14 16 18 20 22 24	48.6 43.3 44.2 45.2 44.8 44.2	52.4 46.6 47.1 48.2 47.6 46.9	34 25 26 28 27 26	7.2
28 30 32 34 36 38	29.5 32.2 29.9 28.4 29.4 30.5 30.5	32.1 33.4 31.8 29.5 31.6 34.5 36.0	16 21 18 15 17 21 22	7.0	26 28 30 32 34 36 38	10.4 20.4 15.0 17.0 15.0 13.5	26.0 30.6 24.5 26.0 24.3 25.0 36.3	2I 57 22 02 05 02 02 01 09	-7.0	28 30 32 34 36 38	52.3 53.8 50.3 45.7 51.2 48.1 42.2	54.9 56.2 51.0 48.2 52.4 49.1 43.8	39 41 34 28 36 31 22	-6.8	26 28 30 32 34 36 38	44.8 45.7 47.0 48.6 46.1 45.1 45.8	47.9 48.2 49.2 51.0 48.2 47.2	27 28 30 33 28 27 28	-7.6
40 42 44 46 48 50 52	30.4 27.2 42.5 41.7 26.3 29.5 26.7	37.6 35.8 44.0 51.3 33.4 39.9 33.0	23 19 37 42 16 24 16	~7.0	40 42 44 46 48 50 52	26.0 22.0 17.4 13.5 11.0 17.5 9.4	35.0 28.9 34.8 33.5 32.5 27.2 29.5	09 11 06 04 05	-6.9	40 42 44 46 48 50	43.2 42.8 40.0 45.7 43.8 40.5 45.6	43.8 44.2 40.6 46.0 44.5 40.6 45.8	23 23 18 27 24 18 26	-7.0	40 42 44 46 48 50 52	47.4 47.9 49.1 49.4 48.8 49.7 48.3	48.9 49.2 50.6 51.4 50.4 51.4 49.8	30 31 33 34 32 34 32	−8.c
54 56 58 00 02 04 06	23.5 24.9 31.4 24.5 37.2 22.4 29.2	32.8 32.9 36.0 31.0 45.8 35.8	14 15 22 13 35 15	7.0	54 56 58* 11 00 02 04 06	12.8 19.0 19.3 15.3 17.8 24.5	30.3 25.6 25.6 29.0 27.0 25.8 25.7	03 05 31 30 31 35 24	-6.5	54 56 58 13 00 02 04 06	47.4 48.0 43.0 40.0 41.8 47.6 49.3	47.8 48.8 45.0 41.8 43.5 48.5 49.9	29 30 24 19 22 30 32	-7.0	54 56 58 15 00 02 04 06	48.7 45.8 48.2 50.0 49.0 47.4 47.1	50.4 46.9 49.6 51.3 50.0 49.8 48.3	32 27 31 34 32 31 29	-8.0
08 10 12 14 16 18 20	24.8 30.4 29.4 26.3 24.8 30.6 23.8	35.0 35.4 33.8 31.7 29.4 32.6 25.8	16 21 19 15 12 19 08	-7.0	08 10 12* 14 16 18 20	16.0 42.2 44.7 41.8 31.8 43.5 29.8	21.3 54.6 50.2 50.8 62.3 58.3 70.4	25 31 29 27 28 34 33	-6.7	08 10 12 14 16 18 20 22	46.6 48.9 46.4 43.6 44.7 45.4 44.4	47.9 50.3 48.8 45.5 46.3 47.6 46.0	29 32 29 24 26 28 26	-7.o	08 10 12 14 16 18 20 22	47.3 47.2 48.2 48.8 48.9 48.8 49.4 48.9	48.3 48.1 49.2 49.6 49.8 49.7 50.1	30 29 31 32 32 32 33	-8.1
22 24 26 28 30 32 34	9.8 12.2	22.4 17.0 20.3 19.5 18.8 12.2 14.2	22 03 21 54 59 58 57 47 50	-7. <b>o</b>	22 24 26 28 30 32 34	40.2 29.6 19.5 25.0 35.5 27.5 33.5	48.5 59.0 63.8 57.6 43.1 50.0 54.0	24 24 20 19 16 15 23 28	-7.0	24 26 28 30 32	45·3 44·7 47·4 44.8 41.2 41.3 51.8	46.5 46.3 48.2 45.9 42.8 42.7 53.7 60.9	27 26 30 26 20 20 37	-6.9	24 26 28 30 32 34 36 38	48.2 48.6 49.0 49.8 49.2 48.5 46.2	49.4 48.7 48.8 49.3 49.5 48.7 46.8	32 31 32 33 32 31 28	-8.0
34 36 38 40 42 44 46 48	14.2 13.1 12.3 16.4 15.5 14.4	15.8 16.5 16.3 14.6 16.6 15.7 17.2 17.5	52 54 53 51 56 54 54 56	-7. I	34 36 38 40 42 44 46 48 50	37.4 47.6 48.4 46.7 42.8 44.8 44.2 45.5	56.7 51.2 53.0 50.7 47.8 47.4 46.7 48.1	32 34 31 26 27 26 28	<b>-</b> 7.0	34 36 38 40 42 44 46 48 50	59.3 46.4 46.2 63.5 40.2 51.2 40.6 50.2	47.0 46.6 64.0 47.4 55.0 43.5 54.2	49 28 27 54 23 38 20 36	-6.9	38 40 42 44 46 48 50	45.3 45.3 44.9 42.2 42.0 40.8 41.9	46.8 46.8 44.0 44.3 43.6	26 27 26 22 22 22 21 23	7.9
46 48 50 52 54 56 58	16.0 15.8 15.3	17.5 16.2 15.6 14.2	56 55 54 49		52 54 56 58	45.1 45.0 49.6 48.2	47.2 48.0 52.4 51.2	27 28 35 33		52 54 56 58	52.0 42.7 28.2 37.2	56.9 44.7 33.0 42.6	40 23 03 17		52 54 56 58	42.3 41.3 43.7	45.8	24 22 25	

Observers—R. R. T. and W. J. P., who alternated from 8h o2m to

Observers—R. W. P. and R. R. T., who alternated from 15h 40m

8h 14m; W. J. P. and R. W. P., who alternated from 11h 48m to 15h 54m. (W. J. P. 12h 48m to 13h 24m.)

12h o2m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedn	esday,	Septer	nber 30,	1903			Magne	t scale	erect	Wedr	iesday,	Septe	mber 30	, 1903			Magne	t scale	erect
Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	So read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	cale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Tem <sub>1</sub> C.
h m	d	đ	۰,	٥	h m	d	đ	0 ,	0	h m	đ	d	. ,		h m	d	đ	0 ,	
6 00 02	45.1 46.8	48.0 48.7	22 28 29	7.7	18 00	49.2 49.2	51.3 $52.3$	22 33 34	7.4	20 00 02	45·3 45·7	46.5 47.3	22 27 27		22 00 02	31.8	43.8 43.2	22 39 22 42	-6.0
04 06	46.7 47.2	49.0 49.1	30 30		04 06	50.7	53.2 52.8	34 36 36		04 06	45·3 44.0	47·5 46.3	27 28 26		04 06	51.2 37.8	62.0 51.6	23 08 22 50	
08	46.6	49.3 48.8	30		08	51.1	53.2	36 36 36 38		08	44.0	46.9	26		08	34.0	46.2 33.8	43	
10 12	46.9 47.8	49.0	30 30		10 12	51.3 52.1	53.2 53.8	38		12	44·7 44·7	47 · 4 47 · 4	27 27		12	23.2	30.6	24 20	
14 16	47.2 48.1	48.8 49.8	30 31	7.6	14 16	50.3	51.9 50.3	35 32	-7.4	14 16	44·5 44·5	46.7 46.8	26 26	-6.3	14 16	19.8 25.0	29.8 28.5	19 22	-6.0
18 20	49.2 48.6	51.1 50.3	33 32	 	18 20	48.1	51.2 52.0	32		18 20	45.0 44.6	47.0 46.6	27 26		18 20	26.7 27.4	30.3	24	
22	49.2	51.1	3.3		22	49.0 49.4	52.3	34 34		22	43.8	45.7	25		22	27.6	30.6	25 26	
24 26	48.9 48.9	50.8 50.8	33 33		24 26	49·3 50.1	52.3 52.6	34 35 36		24 26	37.8 41.6	41.2 44.5	17 22 22	\$ to 100	24 26	29.4 30.6	32.3 32.8	28 30	
28 30	48.8 48.2	50.8 50.9	33 32 32	7.5	28 30	50.8	53.0 53.3	36 37	7.0	28* 30	38.8 Ove	51.3 rľk'd	23 42	**	28 30	31.1	33.0 32.5	30 29	81
32	47.9 48.2	50.6 51.1	32 32	, ,	32	50.3 49.6	52.3 56.5	35 38	,	30 32 34*	33.0 14.5	54·5 17.0	39 48	-6.2	32	31.4	33.3	30 30	-6.0
34 36 38	47.8	49.9	31		34 36 38	48.8	50.7	33		34* 36* 38	35.7 18.7	38.8	23 10	0.2	34 36 38	31.4	33·3 31.9	29	
40	48.2 48.5	49.9 50.2	32 32		38 40	49.0 49.5	51.0 51.4	33 34		40	18.7	21.3 17.4	22 43 37		38 40	30.4	32.8 34.3	29 32	
42	48.9 49.2	50.4 50.8	32 33	7.5	42	50.2 49.6	52.0 51.3	35 34	,	42*	34.I 30.5	41.8 36.5	14 07	-6.o	42	32.7 31.6	34·5 33·2	32 31	-6.0
44 46 48	49.9 49.9	50.3 50.4	33	,.5	44 46 48	49.7	51.2	34		44 46 48	29.7	36.0	06		44 46 48	28.3	30.3	26	0.0
50	49.9	50.3	33 33		50	49.7 48.3	50.4 49.8	33 32		50	33·7 37·2	35·3 38·9	09 14		50	28.4	29.6 31.1	25 27	
52 54 56	49.2 48.9	49.8 49.6	32 32		52 54	47.6 46.4	48.8 48.0	30 29 28		50 52 54 56 58	37.1 46.8	38.3 56.3	14 36		52 54	31.1	32.3 32.0	30 29	
56 58	49.2 50.6	50.1 51.8	32		54 56 58	46.6 46.0	47.5 47.0	28 28		56 58	47·4 52·7	52.3 $63.9$	33 46		54 56 58	31.2 31.8	32.2 32.8	30 30	
7 00 02	51.9 51.9	53.1 52.9	35 37 37	-7.6	19 00	45.2	46.6	27	-7.7	21 00	53.6 64.8	60.0	22 44	-6.0	23 00	32.2	33.3	31	-6.0
04	51.0	51.9	35 36		04	45.3 46.0	47.2 47.9	27 28		02 04	54.0 26.2	72.0 58.0	23 02 22 43		02 04	31.0 30.6	31.8	29 29 28	
o6 o8	51.8 50.6	52.0 50.8	36		o6 o8	46.2	48.0 48.0	28 28		o6* o8	26.2 18.0	29.0 29.0	23 I3 23 07		06 08	30.5	31.3 30.1	28 26	
10 12	49.2 49.8	49.7 50.0	32 33		I0 I2	47.0 45.3	48.2 47.1	29 27		10* 12	46.5	49·3 43·5	22 37 28		I0 I2	30.0	31.0	28 28	
14 16	49.6 49.9	50.0 50.8	33	<del>-7</del> .6	14 16	46.1 46.6	48.5 48.0	29	-6.8	14	42.2	43.8	29 06	-6.0	14	28.3	29.2	25	
18	50.6	50.9	34 34	1	18	48.2	49.2	29 31		18	25.3 32.8	30.7 36.0	16		16 18	27.7 27.4	28.2 28.1	24 23	-5.9
20 22	49.2 48.9	49.9 50.3	32 32		20 22	48.9	50.0 50.1	32 32		20 22	43.5 39.8	44.8 40.8	31 25		20 22	28.0	28.8 28.4	24 24	
24 26	49.0 49.9	50.0 50.7	32 34		24 26	49.2 48.7 51.2	50.2 52.6	32 36		24 26	47.2 45.0	50.8	39 22 44		24 26	23.4	23.5 29.0	16 24	
28 30	50.3 50.2	50.9 51.0	34 34	-7.5	28 30	49.2 49.4	50.3 50.2	33	-6.7	28* 30	53.3	59.7 62.7	23 43	6.0	28	28.8	29.9	26	
32	50.2	51.0	34	7.5	32	49.2	50.5	33 33	-0.7	32	53·3 47·5 15.8	53·5 25.8	23 31 22 44 23 08	-6.o	30 32	29.6 30.8	30.2 31.1	27 28	-5.8
34 36 38	49.9 50.8	51.0 52.0	34 35		34 36	49.6 49.9	50.9 51.1	33		34 36	25.5 32.7	46.3 49.0	23 08 23 16		34 36	33.6 35.0	33.6 35.0	32 35	11
38 40	50.3 51.1	51.4 52.3	34 36		38 40	50.2 50.6	51.5 51.9	34 35		.38*	55.4	64.3 63.6	24 45 24 31		38	33.5	33.9	33	OE,
42	51.4 52.1	52.3 52.8	36 37	-7 -	42	49.9	51.2	34	.6 -	40 42*	37.0	46.5	22 20		40 42	32.7 31.3	$33.3 \\ 31.5$	32 29	Ob.
44 46 48 50	51.7	53.0 53.7	37	<i>-</i> 7⋅5	44 46	48.9	50.4 48.5 47.8	32 30	-6.7	44 46	64.0 18.1	66.6 33.3 75.6	23 09 22 07	-6.o	44 46	30.0	30.4 31.1	27 29	-5.7
48 50	50.9	52.7 52.0	36 35		48 50	46.8	47.8 49.0	29 30		48* 50	68.0 11.6	75.6 38.0	24 4I 23 28		48	31.8	32.6 34.7	30	
52 54	50.1 50.4	52.0 52.2	35 35		52 54	45.6	47.6 46.4	28 26		52*	16.0	34.5	22 19		50 52	35.0	36.9	33 36	
52 54 56 58	50.1	52.2	35		56	45.2	46.0	26		54 56 58	19.3 23.3	33·5 39.8	21 29		54 56 58	40.5 45.2	44.0 47.0	46 52	
20	49.9	51.7	34	1	58	45.7	47.0	27	-6.5	58	40.6	51.4	52		58 60	47.0 57.4	48.6 58.1	22 55 23 10	-5.

Observers—R. R. T. and W. J. P., who alternated from 19h 52m to 20h 06m. (W. J. P. alternated R. R. T. also from 18h 16m to 18h 22m and observed readings from 18h 24m to 18h 44m.)

Correction to local mean time + 37s.

Torsion head at oh oom read 339° and at 24h 30m read the same.

Observer—W. J. P.

# Tabulation of magnetic declinations observed at Teplitz Bay-Continued

ınur	sday, October	r I, 1903	3		M	agnet s	cale inv	erted	Frida	ıy, Oct	tober 2	, 1903			M	agnet scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp C.	Chr'r time	rea	cale dings Right	East decli- nation	Temp C.	Chr'r time	reac	cale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readin	gs decli-	
h m 6 00 02 04 06 08	The fibre v substituted, at the scale read	0 /	o	h m 18 00 02 04 06 08	d 52.6 52.3 51.4 50.9 49.9	52.0 51.0 50.6	0 , 2I 40 40 4I 42 44	-2.9	h m 20 00 02 04 06 08	d 50.8 49.0 54.6 55.7 55.4	d 58.2 51.1 58.2 58.2 58.4	0 / 22 I5 08 18 19	-5.0	h m 22 00 02 04 06 08	64.3 6 65.3 6 65.9 6	d ° ′, 7.9 22 35 7.6 33 8.4 35 8.6 35 8.1 35	
10 12 14 16 18 20 22 24	fibre was found broken. red, and after the plane of readings were commen	And the state of t		10 12 14 16 18 20 22	49.3 48.1 47.0 44.1 43.9 41.1 39.1	48.9 47.7 46.0 43.6 43.0 40.7 37.8	45 47 49 53 54 21 58 22 02	-3.0	10 12 14 16 18 20 22	56.9 56.2 54.8 53.0 46.4 49.7 51.9	58.7 58.2 56.6 54.7 49.0 52.3 54.5	21 20 17 14 05 10	-5.0	10 12 14 16 18 20 22	66.1 6 66.2 6 66.3 6 64.4 6 64.9 6 64.4 6 65.0 6	3.9 36 3.0 36 3.2 36 3.7 35 3.2 35 3.0 35 3.0 35	-4.
26 28 30 32 34 36 38	e H >			24 26 28 30 32 34 36 38	36.5 34.3 35.8 36.8 32.3 31.8 32.4 32.3	33.7 34.8 35.8 31.5 30.6	05 08 06 05 12 13 12	-3.0	24 26 28 30 32 34 36 38	52.8 52.7 54.9 55.9 55.9 55.3 54.9 55.4	54.8 54.4 56.0 57.7 57.1 57.0 56.3 57.6	14 17 19 19 18 17	-4.8	24 26 28 30 32 34 36 38	65.1 66 66.1 66 65.4 68 65.3 69 65.3 69 64.9 68	3.6 35 3.8 35 3.0 36 3.1 35 3.0 35 3.0 35 3.4 34 3.8 33	-4.
40 42 44 46 48 50 52 54 56	new set of four was detorsion was found,			40 42 44 46 48 50 52	30.4 33.4 36.5 34.0 38.5 39.0 40.8 40.1		15 11 06 09 02 22 01 21 59 22 00	-3.0	40 42 44 46 48 50	56.2 55.6 53.7 54.9 57.3 57.0 55.9 56.9	58.7 58.1 56.1 56.0 58.9 58.4 57.1 58.2	20 19 16 17 21 20 19	<sup>-</sup> 4·7	40 42 44 46 48 50 52 54 56 58	65.0 68 65.9 69 66.0 69 65.9 67 65.7 67 65.9 67	7.8 33 3.5 35 3.0 36 3.4 36 3.3 34 4.0 34 4.0 34 4.0 34	-4.
56 58 00 02 04 06 08	57.0 51.5 58.8 52.0 56.8 55.2 56.5 55.3 54.5 53.5	21 37 35 34 34 37	-3.0	54 56 58 19 00 02 04 06 08	40.1 40.1 38.5 38.8 40.1 40.8 42.5	38.4 38.8 37.4 37.0 38.3 39.2 41.0	00 00 02 02 22 00 21 59 56	-2.9	52 54 56 58 21 00 02 04 06 08	56.8 56.9 55.3 58.2 61.0 60.7	57.8 58.1 56.8 60.1 62.3 64.0 62.4	20 20 18 23 27 28 26	-4.8	56 58 23 00 02 04 06 08	63.8 65 63.9 62 63.1 64 63.5 65 64.9 66 65.3 67	.1 31 .6 31 .0 30 .3 31 .9 33 .3 34 .5 34	-4.
0 2 4 6 8 0	53.3 51.9 54.6 53.5 56.0 54.4 58.3 57.5 58.3 57.0 58.1 56.8 59.0 58.0	39 37 35 31 31 32 30	-3.0	10 12 14 16 18 20 22	41.1 39.9 39.7 39.9 40.7 40.9	39.8 40.1 38.4 38.0 38.6 39.6 39.6	58 21 58 22 00 01 22 00 21 59 21 59		10 12 14 16 18 20 22	61.0 61.2 60.9 60.7 61.5 61.5	68.0 63.0 62.0 62.3 63.1 63.3 63.2	31 27 26 26 28 28 28	-4.8	10 12 14 16 18 20 22	64.9 67 63.9 66 62.7 65 66.9 68 65.6 67	.0 33 .3 32 .0 30 .0 36 .5 34 .4 26	-4.
24 26 28 0 2 4 4 66 8	58.6 57.7 58.9 58.4 61.6 60.5 61.1 60.0 63.0 62.0 62.8 62.0 60.1 59.6	31 30 26 27 24 24 28	-3.1	24 26 28 30 32 34 36 38	40.1 39.1 37.3 37.8 37.7 36.6 35.8	39.0 37.9 36.5 36.8 36.8 35.7 34.9	22 00 01 04 03 04 05 06	-2.4	24 26 28 30 32 34 36	62.5 63.2 63.2 63.7 64.0 63.5	64.I 65.1 65.2 65.0 65.3 64.0 64.I	29 30 31 31 31 30 30	The second secon	24 26 28 30 32 34 36	59.3 60 60.5 61 62.0 64 64.4 65 63.8 67 63.0 66	.4 24 .6 26 .2 29 .9 32 .0 33 .2 31	-4.0
0 2	62.4 61.9 57.1 56.4 55.2 54.7 54.8 54.4 55.6 54.9 56.1 55.6	24 33 36 36 35 34	-2.9	38 40 42 44 46 48 50	35.6 35.8 35.5 35.7 36.3 36.8	34.6 34.7 34.4 34.7 35.3 36.0 36.6	07 07 07 07 06 06	-2.3	38 40 42 44 46 48	63.9 62.9 62.2 61.5 61.5	64.0 63.3 63.0 62.6 62.6 64.0 64.2	30 29 28 27 27 29	5.0	38 40 42 44 46 48	63.2 66 62.2 64 61.9 64 63.3 65 63.9 65 64.2 65	.0 31 .9 30 .5 29 .8 31 .6 31 .9 32	-4.0
2 4 6	56.1 55.2 55.0 54.3 54.3 53.8 52.8 52.2 52.9 52.2	35 36 37 39 39		50 52 54 56 58 20 00	37.6 37.7 37.6	36.9 36.9 37.0 36.7	04 04 03 03 04 06	-2.0		63.6 63.0 64.2	65.0 65.8 66.8 67.3	30 31 31 33 34		50 52 54 56 58 60	64.8 66 65.9 67	.I 34 .9 37 .I 36	-2.

Correction to local mean time — Im 02s. 90° torsion = 20.'6. Torsion head at 7h oom read 72° and at 20h 26m read 89°. Observer—R. R. T.

Correction to local mean time is — 1m obs.

Torsion head at 19h 45m read 222° and at 24h 20m read the same.

Observer—R. R. T,

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

bunda	y, October 2	, 1903			Maş	gnet so	ale inve	erted	Sund	ay, Uc	tober 4	, 1903				wagne	t scale	erect
hr'r me	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Тетр. С.	Chr'r time	Scr read Left	_	East decli- nation	Tem C.
m	d đ	0 /	0	h m	d	d	0 ,	0	h m	d	d	· /	0	h m	đ	đ	0 /	, ,
00 02 04 06	53.1 50.0 55.6 52.2 Overl'k'd 58.2 57.8	22 38 34 27	-10.3	2 00 02 04 06	46.3 46.1 46.2 45.1	45.2 44.7 44.8 43.2	22 47 47 47 49	<del>-7</del> .8	4 00 02 04 06	48.5 46.3 44.0 45.7	56.3 48.0 44.8 46.8	22 34 26 21 24	<b>-7</b> ·3	6 00 02 04 06	30.5 52.6 41.0 32.1	34·3 54·3 48.6 36.0	22 40 23 13 22 59 22 42	<b>ウ</b> .
08 10	56.5 54.9 55.1 54.2	31 33		80	44.I 42.6	42.0 40.3	51 53		08 10 12	54.7 60.8 53.3	54.8 61.7 55.2	38 48		08 10 12	49.9 54.2 45.9	52.9 59.0 50.7	23 09 18 23 05	
12 14 16 18	55.7 54.7 56.1 54.1 55.1 52.2 55.3 52.0	32 34	-10.0	12 14 16 18	41.1 42.1 41.3 43.1	39.5 40.0 39.2 40.2	55 54 55 53	7.7	14 16 18	54.2 57.2 60.9	55.8 57.4 61.9	37 38 42 48	<i>−</i> 7.1	14 16 18	40.9 39.2 40.6	44.0 42.8 42.0	22 55 53 54	-8
20 22 24	54.8 51.9 51.8 48.9 50.7 48.0	35 39 41	:	20 22 24	46.1 47.0 47.9	43.5 44.5 45.4	53 48 47 45		20 22 24 26	63.9 63.9 62.2	65.1 65.1 64.2	53 53 51		20 22 24 26	41.0 45.1 46.2 50.2	42.6 45.9 47.9 52.0	22 54 23 00 03 09	
26 28 30	50.3 48.2 48.6 46.3 47.0 45.3 47.1 45.2	44	-9.4	26 28 30 32	48.0 48.2 49.0 50.0	46.0 46.3 47.0 48.2	45 44 43 41	-7.8	28 30 32	63.1 63.5 63.2	65.9 66.3 66.0 64.9	53 54 53 51	-7.3	28 30 32	53.7 58.9 54.9	54.2 61.3 56.2	13 23 16	-8
32 34 36 38	47.1 45.2 46.5 45.0 47.5 44.8 49.1 45.8	46 46		34 36 38	50.0 49.5 49.5		41 42 42	l	34 36 38	58.9 59.2 63.9	62.0 62.0 66.8	47 47 54		34 36 38	66.3 64.9 65.1	69.3 66.7 65.9	35 32 32	
40 42	49.1 45.9 48.2 45.0 48.4 45.0	44 45 45	-8.9	40 42	50.3 51.0 51.0	49.7 50.3	41 40 39	7.8	40 42 44 46	62.2 63.2 61.6 66.6	65.7 64.4	53 51 22 59	7.5	40 42 44 46	65.7 57.9 61.8 58.6	66.8 60.2 62.5 58.8	33 21 26 21	
44 46 48 50 52	48.1 45.6 49.0 45.3 49.0 45.6 49.3 46.0	44	i	44 46 48 50 52	49.4 49.2 49.8 48.6	48.0 48.8 47.3	42 42 41 43		48* 50 52	52.8 57.6 52.0	55.8 59.4	23 14 21 13		48 51* 52	47.8 59.0 47.2	50.3 63.0 51.0	23 06 24 00 23 42	
50 52 54 56 58	48.1 44.9 48.0 44.9 49.0 46.3	45 46 44		54 56 58	48.4 48.6 48.8	47.2 47.6	43 43 43	-8.0	54 56 58 5 00	50.4 54.2 62.7 65.5	54·4 63·3	10 14 28	-7.5	54 56 58 7 00	39.7 19.0 33.1 32.2	42.3 22.0 34.0 37.0	23 29 22 57 23 17 19	
00 02 04 06	49.6 47.0 47.2 44.0 50.0 47.0 49.1 45.2	) 47 ) 42		3 00 02 04 06	49.3 48.5 48.0 48.2	47.0	43 44		02 04 06	69.8 71.9 69.8	70.0 72.6	32 38 42 39	7.5	02 04 06	25. I 24.8 21.0	28.2 27.9 25.7	07 06 23 01	
08 10 12	50.7 47.2 51.7 48.1 48.5 45.0	2 42 1 40 0 45	i	08 10 12	49.8 51.2 50.6	48.8 50.6 49.9	39 40		08 10 12	63.0 64.0 64.3	67.2 66.8	30 32 32	!	08 10 12	20.3 13.1 13.1	22.8 17.9 16.8	22 58 49 48	
14 16 18 20	51.1 47.3 50.5 47.9 51.4 49.5 46.0 44.1	39		14 16 18 20	48.6 47.6 48.4 48.0	47.0 47.2	44 43	1	14 16 18 20	62.2 61.7 56.7	63.9 59.0	29 27 20 13	7.6	14 16 18 20	16.8 12.5 10.8	18.8 19.0 16.0 18.0	53 49 46 49	
22 24 26	56.0 54.2	2 32 9 34		22 24 26	48.3 48.8 49.1	47.2 47.6 47.0	44 43 43		22 24 26	45.5 45.9 43.9	47.0 47.3 47.0	0I 02 23 00		22 24 26	18.0	20.0 I4.0	55 45 36	
28 30 32	42.8 42.7 48.5 46.3 53.6 52.2 55.1 53.0	35	-8.0	28 30 32	47.4 45.8 44.0	43.7	48 50		28 30 32	39.2 37.0 40.9	42.8 39.9 43.1	22 53 49 55	-7.8	28* 30 32	5.0 36.9 38.5 43.4 46.8	40.8 44.3 46.4 51.8	40 44 49 22 56	.   -
34 36 38 40	53.8 52.0 51.3 50.0 47.1 45.2 47.7 47.0	o : 39 7 45	1	34 36 38 40	43.8 45.0 46.0 47.0	43.2	. 49 47		34 36 38 40	35.9 31.1 36.1 39.1	33·7 38.0	46 40 47 52	!	34 36 38 40	51.2 57.0 46.2 46.3	54.3	23 02 23 II	
42 44 46 48 50	50.8 50.6 56.0 50.3 50.1 48.2	5 39 3 35 4 41	-8.0	42 44 46	47.3 48.9 47.5	46.0 47.2 45.0	45 43 46	-7.8	42 44 46 48	42.9 45.6 40.9	44.6 48.1 44.0	22 57 23 02 22 55	7.7	42 44 46	46.3 39.4 38.3 38.8	51.5 45.4 43.8	50	5   5   -
48 50 52	49.0 47.4 49.1 47.4 50.0 48.4	43 4 43 4 41		48 50 52 54 56 58	44.0 42.0 42.1	39.9 40.0	52 54 54		11 50	38.9 40.2 43.9	42.9 45.4 48.1	53 22 56 23 01		48 50 52	43·5 44·6	49.1 51.5	54 54	2
52 54 56 58	50.2 48.2 46.1 45.8 46.4 45.	3 46	,	54 56 58	47.1 48.2 46.6	44.6 46.1 44.9	45		52 54 56 58	37.0 39.2 58.2	39.2 46.8 60.7	22 49 22 56 23 22		54 56 58 8 00	40.6 47.8 41.6 46.7	55.0	59	9   3   -

Observers—R. R. T. (W. J. P. 2h 44m to 3h 24m, alternated R. R. T. to 3h 46m.)

Correction to local mean time + Im 09s.

Torsion head at 23h 00m read 219° and at 8h 15m read the same.

Observers—R. R. T. (W. J. P. 7h 14m to 8h 20m, alternated R. R. T. to 8h 32m.)

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

MOHO	ay, Oci	toner ;	5, 1903	ī		IVLa	gnet s	cale inv	erted	Tues	uay, O	ctober	б, 1903	1	1	1	Magne	t scale	erect
Chr'r time	Sca readi Left	ings	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.	Chr'r time	read	cale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Tem C.
m	d	d	۰,	•	h m	d	d	0 /	0	h m	đ	ď	0 /	, 0	h m	d	d	0 ,	0
00 02	40.5	38.4 37.5	22 34 36	-12.2	I0 00 02	46.3 42.1	36.8 30.9	22 31 39	-9.5	12 00 02	33.9 35.1	39.8 41.3	22 26 28	-6.2	14 00 02	25.5 24.9	27.4 26.5	22 08 07	-6.
04 06	35.5	31.3	44		04	45.8	34.3	33		04 06	35.1	41.6	29	.	04 06	26.0 26.4	27.2 27.6	08	
08	38.3 37.4	35.0 30.8	39 43		o6 o8	44.3 44.8	35.0 36.5	34 32		о8	37·5 35·0	43.0 39.8	32 27		08	28.2	29.8	09 12	
10 12	39.3 39.0	35·3 34·3	38		10 12	43.6	36.3 34.6	34 35		10 12	36.2 34.9	39.3 38.0	28 26		I0 I2	29.5 29.1	30.5 30.4	13 13	
14	40.0	37.0	36	-12.2	14	43.0	34.4	36	-8.8	14 16	33.0 38.2	37 - 7	24	-6.3	14 16	30.5 28.3	31.8 29.1	15	-6
16 18	43·3 47.6	38.3 45.9	32 23		18	42.0 45.9	34.0 38.2	37 30	j	18	37.9	43.9 43.9	32 32		18	26.6	28.0	09	
20 22	42.5 47.1	38.3 41.1	33 27		20 22	46.8	37·3 37·4	30 36	6.75	20 22	36.4 32.9	40.9 38.1	28	1	20 22	23.9 22.0	25.8 24.7	05	
24 26	57-3	48.6	13		24 26	38.8	37.8	36		24 26	23.2 14.2	24.8 24.4	22 05 21 58	!	24 26	21.2 21.8	24.2 24.8	02 22 03	
28 28	38.3	39.7 33.8	30		28	38.1	36.9 $35.3$	37 39		28	: 14.3	23.2	21 57		28	19.0	21.6	21 58	;
30 32	27.2 37.6	23.I 35.5	57 39	-11.9	30 32	40.9	39.0 36.2	34 38	-8.1	30	19.3 23.5	$\frac{25.7}{32.2}$	22 03 11	-6.4	30 32	24.0 22.I	26.2 26.0	22 06 04	<b>-</b> 6.
34	42.6	39·3 45·4	32	1	34 36	38.5	36.7 36.9	37 37		34 36	25.9	32. I 34.8	13 16	i	34 36 38	29.0	33.1 30.8	15 22 12	,
36 38	43.3	38.2	32	\$,	38	39.3	36.4	37	1	38	26.0	33.2	14		38	18.0	21.1	21 57	
40 42	43.3	38.3 41.1	32 28		40 42	41.9	40.0 40.0	32		40 42	27.9 31.0	34.8 35.0	17 19		40 42	20.9 29.9	24.8 32.4	22 02 15	
44 46	41.9	38.6 39.2	33	-11.2	44 46	41.8	39.8 40.1	32	-8.o	44 46	34·3 30.1	35.9 34.0	22 18	-6.5	44 46 48	28.2 29.0	31.0 30.3	I2 I2	-6
48	43.5	39.2	32		48	46.1	4I.I	30 28	1	48	27.0	31.0	13 16		48	29.8 28.7	32.0	14	
50 52	38.3 44.5	35.2 43.0	39 28		50 52	44.0	38.9 37.8	31 33		50 52	28.7	33.1 29.8	10		50 52	28.3	30.9	12 12	;
54 56	39.0 37.4	32.9 37.2	40 38		54 56	45.0 43.9	39. I 37.3	30		54 56	22.8 25.8	23.4 30.1	04 11		54 56	28. I 27. 9	30.8	I2 II	,
58	44.0	43.0	28		58	43.I	38.0	33		58	21.3	22.3 23.0	02 02	-6.6	58 15 00	26.0 25.6	29.0	09 08	-6.
00	40.0 43.6	39.2 41.2	34	-10.9	11 00 02	44. i Over	38.8 l'k'd	31	-7.7	I3 00 02	2I.2 24.I	27.8	o8	0.0	02	23.8	27.0	05	0.
04 06	46.1 41.9	43.I 39.2	26 33		04	41.9 39.8	36.6 35.4	35 37		04 06	26.2	30.9 31.3	I2 I3		04 06	25.0	28.0 24.8	07 02	
08	38.2	34.1	40		08	44.I	37.5	32		08	24.8 26.2	29.0 30.0	10 12		08	23.7 25.7	29.0 31.2	07 10	
10 12	47.1 48.1	39.2 46.1	29 22		10 12	43.0 41.0	37.2 36.5	33 36		12	28.0	31.5	14		12	25.2	31.8	10	
14 16	41.I 39.I	36.8 32.6	35 40	-10.6	14 16	42.0 40.1	36.2 34.3	35 38	7.2	14 16	27.2 26.8	32.8 30.3	14	-6.5	14 16	24.0 22.9	30.0 28.3	07 05	-6.
18	48.3	41.2	26	;	18	38.2	34.6	39	1	18 20	25.6 25.6	30.6 30.6	II	:	18 20	22.8 24.0	28.0 29.1	05 07	
20 22	46.2 44.0	37.6 39.2	31 31		20 22	37.8 37.8	33.9 33.1	40 41		22	25.3	24.8	06		22	25.5	30.8	09	ı
24 26	44.0	39.9 43.3	31 26	1	24 26	36.9 41.9	32. I 36. I	35		24 26	26.3 24.7	31.2 29.3	12 10	1	24 26	26.8 28.1	31.I 32.0	10 12	
28	40.4	37.0	36 36		28	42.9	36. I	34	1	28 30	22.0 2I.0	27.0 25.8	06	-6.6	28 30	28.5	32.0 31.0	12 11	1-6
30 32	40.0 41.0	36.7 34.9	37	-10.3	30 32	39.0 40.3 42.8	33.8 34.2	39 38	7.3	32	19.7	23.6	22 OI		32	27.0 28.0	30.6	IO	1
34 36 38	42.5 45.0	34.9 38.9 39.4	32 30		34 36	42.8	36.9 36.8	34 33		34 36	13.5 19.0	18.0 23.7	2I 52 22 00		34 36	29.3	30.5 31.9	11	1
38	43.8	39.8	31		, 38	43.7	$37 \cdot 3$	33 36		38 40	20.8	24.9 23.3	03 22 00		38 40	28.7	3I.2 3I.I	I2 I2	
40 42	45.2	32.I 37.3	42 32		40 42	41.0 38.9	35·7 34·5	39		42	19.2	21.9	21 58	6 -	42	28.6 28.1 28.8	30.2	10	-
44	45.I	34.8	34 33	-10.1	44 46	40.0	35.2 38.1	37	7.5	44 46	21.5	24.6 25.6	22 03 05	-6.5	44 46 48	29.2	30.7 30.2	11	
44 46 48	44.0	35·5 34·9	34		48	42.9	36.9	34		48	23.2	25.0 25.6	04 05		48 50	29.8	30.8 30.6	I2   II	
50 52	40.8	31.7 31.1	39 39		50 52	43·4 45·9	37.0 40.2	33 29 28		50 52	23.3 22.8	24.8	04		52	29.6	30.5	12	
50 52 54 56 58	44.0	29.0	39		52 54 56	47.0 40.9	40.2 36.7	28 35		54 56 58	24.5 28.0	27.0 30.6	07 12		54 56 58	30.7 31.2	31.9 32.3	' 14 14	
50		35.2 31.9	32 37		58 58	41.7	35.4	35 36 36	7.6	58		29.4	II		58 16 00	31.8	33.I 32.7	15	

Correction to local mean time is + 1m 02s.

Torsion head at 8h oom read 210° and at the end read the same.

Observers—W. J. P., R. R. T., and F. L.

Correction to local mean is + 58s. 90° torsion = 25.'1.

Torsion head at 12h 00m read 216° and at 16h 35m read 233°.

Observer—R. R. T. (W. J. P. 13h 12m to 14h 02m, alternated R. R. T. to 14h 14m.)

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedn	esday, O	ctobe	er 7, 190	03		Ma	ignet s	cale inv	erted	Wedı	iesday,	Octob	er 7, 19	03		Ma	ignet s	cale inv	erted
hr'r ime	Scale reading Left Ri	gs	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Tem C.
m 00*	d 53.0 5	d 1.8 9.8	22 16 18	° -6.8	h m 2 00 02	d 30.1 39.0	d 28.7 38.3	22 52	-5.8	h m 4 00 02	d 49.8 51.3	d 49. I 50.2	° ', 22 21 18	-6.3	h m 6 oo 02	d 33.2 39.4	d 30.0 36.0	22 48	-6.
04 06	49.6 4	7.8 8.2	2I 2I	0.0	04 06	45.5 40.8	42.2 37.9	29		04 06	50.3	49.7 41.8	19		04 06	42. I 37.3	36.6	39 36 42	
10	50.4 4 47.8 4	8.3 5.7	20 24	l t	08	42.3 43.4	40.3 41.5	33	1	08 10	41.2 38.0	40.3 36.3	34 40	. 1	08 10	32.2 25.8	20.6	22 50 23 02	
12 14 16	44.0 4	3.0 1.0 8.8	28 31 34	-6.5	12 14 16	46.4 45.1 46.1	44.2 43.3	27 29 28	-5.9	12 14 16	41.2 43.9 41.8	39.0 42.9 40.8	35 30 33	-6.3	12 14 16	45.8	36.1 40.2 35.8	22 34 29	-6.
18 20	41.2 3	9.2 4.0	35 28	0.5	18	43.9	43.2 42.2 37.7	30 37		18	39.7 39.9	37.8 38.6	37 36		18 20	Ove	rľk'd rľk'd	39	
22 24 26	46.8 3	9.3 8.8	35 31		22 24	36.9 33.3	35·4 31·7	41 47	!	22 24 26	39.2 37.0	36.7 35.5	39 41		22* 24 26		rľk'd	45	
28 30	43.2 4	5.7 1.8 9.0	40 31 35	-6.o	26 28 30	36.1 42.2 39.6	32.6 39.4 36.7	44 34 38	-6.1	28 30	33.9 31.9 30.9	31.3 29.0 28.0	47 50 52	-6.3	28 30	25.9 20.8 15.1	20.2 15.2 12.2	39 47 22 53	-6.
32	39.I 3 4I.8 3	6.6	35 38 34		32 34	40.3 44.7	37·7 41.8	37 30		32 34	30.9 31.2	28.9 29.3	51 51		32 34 36	10.8 24.6	8.4 21.8	23 00 22 38	
34 36 38 40	45.6 4	4.0 5.1 1.3	27 27 33		36 38 40	49.2 45.6 40.8	45.8 42.5 37.7	23 29 36	1	36 38 40	32.9 31.8 32.1	30.3 29.6 29.2	48 50 50		36 38 40	29.8 21.0 13.3	22.6 18.2 9.2	34 44 57	
42 44 46	38.1 3 36.4 3	7.0 4.8	39 42	-5.8	42 44 46	42.8 44.1	40.4 41.8	32 30		42	36.0 39.0	33.8 36.6	43 39	-6.3	42 44 46	13.0	9.9 16.8	57 45	-6
48 50	33.0 3	6.0 2.8 5.8	39 46 39		46 48 50	38.2 35.6	39.5 36.1 33.0	34 40	−6. r	44 46 48 50	37·4 37·3 37·0	35.0 34.2 34.0	41 42 42		46 48 50	24.0 14.7 19.1	17.9 9.9 11.1	55 51	
52 54	41.7 3	9.I 8.8	34 35 38	1	52 54	34.7 35.4	32.0	44 46 45		52 54	38.8	35·3 36.7	40 38		52 54 56	16.9 22.1	8.8	55 43	
56 58 00	37.4 3	6.6 34.9 35.3	38 41 42	-6.o	56 58 3 00	36.0 34.6 31.7	33.2 32.2 28.8	44 46 50	-6.2	56 58 5 00	43.8 38.9	41.2 35.6	31 40	-6.3	58*	Ove 61.1 61.8	rl'k'd 60.6 60.1	36	-6
02 04	35.7 3 39.9 3	3.5 34.0 38.5	43 36	0.0	02 04	26.1	23.2 16.1	22 59 23 II	0.2	02	37.0 37.0 34.7	34.5 33.5 32.0	42 43 46	0.3	7 00 02 04	60.9	58.1 61.0	36 38 34	~
06 08	42.4 4	11.6 11.1	32 32		06	20.2		23 09 22 57		06 08	30.4 28.1	37.8 26.2	44 55 58		o6 o8	57.1 60.4	55.9 59.0	43 38	
10 12 14	42.6 4	μο.7 μο.6 μι.5	33 32 31	-5.8	10 12 14	36.3 30.2 32.1	33·4 27·2 28·3	43 53 50	-6.2	10 12 14	26.8 32.0 29.1	24.7 29.2 26.9	58 50 54	-6.4	10 12 14	58.7 58.1 56.2	56.8 56.8 53.5	41 41 46	١.
18 18	43·3 4 44·0 4	1.2	32 30		16	34·5 34·2	30.8	47	The state of the s	16	27.0 28.0	25.3 26.1	57 22 56		16 18	55·5 42.8	53.6	22 46 23 06	
20 22 24	43.7 4 42.8 4 38.8 3	12.8 11.3 137.8 12.7	30 32 38		20 22 24	33.8 36.6	31.I 34.I 37.3	47 42 38		20 22 24	24.6 23.8 35.7	23. I 22. 4 35. 4	23 0I 23 02 22 42		20 22 24	48.1 48.0 41.2	44. I 47.2	22 59 22 57 23 07	
26 28	41.7 4	μ.ο	31		26 28	36.9	39·7 34·4	34 42	1 _	26 28	25.9 25.8	24. I 24. 4	59 22 58	1	26 28 ·	46.5	44.I 4I.3	00	
30 32 34	51.3 5	ю. і б. т б. 7	19 17 24	-6.0	30 32 34	32.0 29.8 31.2	29.3 27.2 29.3	50 53 50	-6.3	30 32 34	21.9 13.9 18.7	20.0 12.7 16.0	23 05 17 11	-6.5	30 32	47·4 47·2	43.9	23 00	
36 38	53·3 5 47.6 4	32.5 17.4	15 23		36 38	32.9 33.8	30.7 31.8	48 46		36 38	22.0 30. I	20.6 29.9	23 04 22 51		34 36 38	47.9 45.7 50.1	45. I	22 57	
40 42 44 46	50.5 5	8.2 30.1 9.3	19 20	-5.8	40 42	34.9 35.5 34.8	33.2 33.8	44 43	-6.3	40 42	36.0 39.9	$\frac{33.7}{38.2}$	43 37	6 -	40 42	57.2 63.8	51.1 58.9 58.9	47	
48	51.8 5 44.4 4	0.7  4.0	20 18 28	3.0	44 46 48	37.0	33·3 36.0 39.0	44 41 35	0.3	44 46 48	41.0 41.0 38.8	38.3 40.8 37.4	36 34 22 38	-6.5	44 46 48	63.0 68.0	50.0	38	ĺ
50 52	39.2 3		34 36		50 52	45.0 38.7	44·4 37.8	35 28 38		50	25.2 22.8	22.5 22.0	23 OI 23 O3		50 52	71.2 68.4	65.0 67.2	25	, \$2
54 56 58		32.3 26.2 26.9	47 56 54	t	54 56 58	38.4 41.8 48.8	37.2 40.8 48.0	38 33 22		52 54 56 58	40.1 50.5 36.8	37·4 45.0 32.1	22 37 23 44		54* 56 58	41.2 51.0	31.7 45.6 24.6	03 37	त

Observers—W. J. P. and R. W. P. alternated from oh 14m to oh 26m; Observer—R. R. T. R. W. P. and R. R. T. alternated from 3h 52m to 4h 04m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedn	esday, Octob	er 7, 19	03		Mag	gnet s	cale inv	erted	Wedr	1esday,	Octob	er 7, 19	03		Ma	gnet s	cale inv	erted
hr'r ime	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Tem; C.
m	d d	۰,	0	h m	d	d	0 /		h m	· d	ď	a ,	0	h m	d	d	. ,	0
00 02	26.8 18.3 59.4 53.3	22 43 21 50	-6.5	10 00	26.8	25.8 25.6	22 37 40	-6.0	12 00 02	31.8 31.2	25.6 23.3	22 35 37	-6.2	14 00 02	39.7 37.1	39.I 37.I	22 18 22	-6.8
04 06	62.2 43.0 46.0 17.9	2I 56 22 29		04 06	28.5 45.3	22.5 $35.3$	41 18		04 06	33·3 35·I	26.2 27.1	33 31		04 06	38.3	38.2 38.3	20 20	1.
08* 08	56.9 37.1 Overl'k'd	49		08 10	52.0 37.0	42.0 30.3	08 29		08	34.2 36.4	27.0 29.9	32 28		08	37·3 41·4	37.2 40.5	22 16	
I2 I4	46.0 36.7 68.8 55.0	58 26	-6.5	12 14	25.0	16.0	49 23	-6.2	12 14	37·4 38.6	31.4 32.8	26 24	-6.1	12 14	41.2	40.6 42.3	16	6.0
16 18	69.8 62.8	19	0.5	16	27.6	33·3 23.8	41	0.2	16	38.2	33.8	24	0.1	16	45.0	44.I	IO	0.5
20	68.7 65.5 34.8 30.9	22 18 23 12	•	18	51.8 41.8	47.2 34. I	04 22		20	37.6 38.1	32.9 32.3	25 25		20	41.8 49.2	48.1	15 04	
22 24	40.0 35.8 67.0 62.0	23 04 22 22		22 24	30.3 34.3	25.6 28.8	38 32		22 24 26	38.2	33.8 35.6	24 20		22 24	45.4	42.6 38.4	18	
26 28	45.0 43.2 48.5 45.8	54 49	,	24 26 28	35.6 46.0	35·3 40.3	26		26 28	40.5	35·7 43·7	20		26 28	43.I 40.8	41.6 39.6	14 17	1
30	67.1 62.0 61.3 58.3	22 29	-6.3	30 32	46.3 45.6	34·3 39·2	14 18 15	-6.2	30 32	49.2 51.1	44.7 48.9	07 02	-6.0	30 32	40.2 39.8	38.7 38.8	18	7.0
32 34	46.0 46.0	51		34	46.8	31.0	20		34	47.8	44.2	08		34	37.7	36.7 36.8	22	
36 38	67.0 61.7 47.8 43.0	22 52		34 36 38	48.0 60.0	30.0 50.0	22 20 21 55		34 36 38	46.4 49.0	42.9 47.2	10 05		34 36 38	37.9 38.4	37.3	21	
10 12	50.8 41.8 69.7 60.3	50 21		40 42	Overl	66.5 l'k'd	29		40 42	51.1 48.2	48.7 45.2	02 07		40 42	40.2	38.7 39.3	18 17	
44 46 48 50	54.5 45.1 64.0 58.2	45 27	<b>−</b> 6.1	42 44* 46 48	42.5	31.8	30 56	-6.2	44 46 48	48.7 52.6	46.1 50.4	22 06 21 59	-6.2	44 46 48	42.7 45.8	41.1 44.7	14 09	7.
8	60.3 57.0	22 31		48 50	28.6	15.0	2I 54 22 I2		48 50	49.4 46.3	47·3 44·3	22 04 09		48	48.2 54.1	46.3 52.1	22 06 21 57	
52	41.3 34.3 58.0 47.2	23 04 41		52*	13.2 29.0	15.5	24		52	45.8	43.2	10		52	57.0	55.7	52	
2 4 6	58.0 48.2 42.3 25.6	10		54* 56	26.0 31.3	17.2 23.6	46		54 56	43.8 42.7	42.I 40.8	13		50 52 54 56 58	55.0	55·3 53·9	53 55	
8	59.8 52.8 66.0 65.8	35 20	<del>-</del> 6.0	58	32.3 33.3	27.2 24.3	33 35	-6.0	58 13 00	44.I 47.0	40.8 44.5	08	-6.3	58 15 00	53·3 51.2	52.7 50.1	2I 57 22 00	7.
)2 )4	38.0 35.2 63.2 55.2	23 06 22 30		02 04	39.7 41.5	32.3 34.3	24 21		02 04	46.1 43.2	43.4 40.8	10 14		02 04	47.7 48.6	46.3 47.7	06 05	
6	57.5 47.2	41		06	40.5	33.0 36.3	22 18		06 08	39.6 38.0	36.9 35.3	20 23		o6 o8	46.5	45.2 42.1	05 08 13	
08 10	53.0 40.6 49.7 37.7	22 54		10	43·3 35.8	29.9	28		10	36.6	34.4	24		10	44.3	43.9	11	
[2 [4	39.9 22.4 64.8 44.3	23 I4 22 38	-6.1	I2 I4	41.3 49.0	35.0 42.2	08	-6.2	12 14	34.8 38.0	32.5 $35.2$	27 23	-6.5	12 14	39.8	41.4 39.2	15 18	7.
6 8	53.0 37.0 54.4 42.2	52 47		16 18	49.8	4I.5 4I.3	08		18 18	33.0	31.3 32.0	30 29		18	37.8 41.9	36.1 40.6	22 15	
0	61.6 44.7	40		20 22	48.0	40.6 36.6	11		20 22	34.8 34.8	33·3 33·3	27 27		20 22	40.2	39.I 42.2	18	
2 4 6	66.5 43.0	37 48		24 26	42.3	33.8 36.8	20		24 26	35.I 36.8	33·5 36.0	26 23		24 26	41.9 37.2	39.7 36.3	16 22	
28	46.8 46.3 69.5 66.5	50 16		28	46.8	39.8	15		28	37.9	37.I	21	-6.6	28	33.7	33.I	28	
0	63.2 51.4 65.7 59.7	33 25	-6.0	30 32	44.0 43.3	37.2 38.4	16 16	-6.2	30 32	37.0 35.7	36.0 34∙5	23 25	-0.0	30 32	37·7 32.8	37·5 32.8	2I 29	7.
4	64.3 60.0	25		34 36	40.6 40.3	34.6 34.1	2I 22		34 36 38	36.0 40.1	35.I 39.3	24 18		34 36	36.0 34.5	35.9 33.9	24 26	
38	75.0 69.3 45.8 42.6 65.8 55.8	54 22 28 21 28		38 40	40.6	33.8	22 22		38 40	41.6 38.7	40.4 36.2	16 22		38 40	35·4 33.6	35.2 33.2	25 28	
μο  2*		21 28		42	44.6	33.0 38.2	15	6.2	42	41.8	40.2	16	-6.6	42	35.8 35.4	35.0 34.8	25	
14	27.3 24.3	22 16 45	-6.0	44 46 48	34.I	35·5 25.6	33	-6.3	44 46 48	43.1	42.I 42.5	13	0.0	44 46	36.3	34.6	25	-7.
8	27.5 16.8	22 50		48 50	29.4	20.8	4I 38		48 50	41.8	40.5 41.4	16 14	1	48 50	38.4 37.2	36.3 36.2	22 22	
52	18.4 16.0	30		52	33.6	26.I 27.3	33 32	,	52	42.7 39.0	42.0	14		52 54	36.9 36.3	36.6	22 24	
32 34 336 338 40 42* 44 45 552* 554* 558	20.0 20.0 51.0 48.2 41.2 38.8	25 03 18		54 56 58	33.9	27.4 27.4	32 32 32		52 54 56 58	40.3	39.7 39.7	17		52 54 56 58	37.6 40.1	35·5 35·4	23 2I	

Observers—R. R. T. and W. J. P. alternated from 8h 24m to 8h 32m. W. J. P. and R. W. P. alternated from 15h 46m to 16h 02m. (W. J. P. 13h 08m to 13h 38m.)

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedn	esday,	Octobe	e <b>r</b> 7, 190	3		M	agnet s	cale inv	erted	Wedr	iesday,	Octob	er 7, 19	003		Ma	gnet s	cale inv	verte
Chr'r time	Sca read	_	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	1 0
ım	d	d	0 /	, 0	h m	ď	d	,	. •	h m	d	d	0 /	0	h m	d	d	, 0 ,	
00	40.2		22 21	1	18 00	40.3	36.0	22 20	7.2	20 00	36.7	34.0	22 25	-8.6	22 00	41.3	36.5	22 19	-II.
02 04	41.0 38.8	36.7 33.0	19	1	02	41.6	35·7 36.8	18 19		02	37.5	33.9	24	]	02	45.8	37.5	15 06	
06	37.9	34.0	24 24	1	04 06	42.9 40.3	35.2	21	7	04 06	36.7 35.6	33.7 32.1	25 27		. <b>04</b> . 06	51.4 47.8	42.7 40.2		
o8	37.8	34.7	23	į	08	41.8	37.0	18		08	35.2	32. I	27		08	48.0	41.2	11	
10	37.7	34.2	24		10	41.5	36.2	19	î .	10	33.5	31.8	29 28	!	10	48.2	41.4	10	
12	37.9	35.6	22	1.6.	12	42.3	38.3	17		12	34.8	32. I	28		12	49.2	42.6	08	,
14 16	38.2	35·7 34.8	22 22	-6.4	14 16	43.0 40.7	39.0 38.9	18	-7.0	14 16	35.6 35.8	32.9 33.8	26 25	-9.0	14 16	50.8	44.8	05	
18	38.0	34.0	24		18	40.7	38.0	. 19		18	35.9	34.0	25		18	51.3 50.6	45.2 45.2	04 05	
20	37.3	33.2	25		20	40.3	37.5	19		20	35.1	33.I	27		20	50.9	45.5	04	
22	37·3 38.1	33·3 34.8	25		22	40.3	38.3			22	34.9	32.8	27		22	49.3	44.4	06	
24 26	38.1	34.8 34.9	23 22		24 26	39.7 38.3	37·3 36.2	20		24 26	36.9	35.0	24		24 26	49.0	44.7	06	
28	37.1	33.2	25		28	38.5	36.4	22 2I		28	38.2	35.9 36.6	22 20		20	49.3 46.5	45.1 42.5	06	
30	37·3 38.8	34.6	24	-6.4	30	38.1	36.5	22	-7.0	30	40.8	38. I	18	-9.3	30	47.8	36.0	14	
32		33.8	23		32	38.3	34·3 36.8	23 18	1	32	39.3	38.4	19		32	29.5 8.8	25.8	22 37	
34 26	39.0 39.1	34. I	23		34 36	42.0	36.8			34 36	39.2	38.1	19		34 36*		7.6	23 07	1.7
34 36 38	37.9	35.0 34.2	24		38	41.8 38.0	37.8 34.8	18		38	38.4 38.1	38.0 38.1	20 20		30 <sup>+</sup> 38	49.0	8.0 24.8	24 26	
40	37.4	33.0	25		40	39.5	35.6	21		40	39.6	38.4	19		40	32.3 20.6	8.2	26 48	
42	38.4	33.6	24		42	40.2	36.4	20		42	39.3	37.8	20		42	48.3	34.3	06	
44 46 48	38.1	33.3	24	-6.6	44 46 48	40.9	37.2	19	7.1	44	42.6	41.4	14	-9.3	44*	36.5	31.0	24 49	
48	37.8 37.0	35.0 33.6	23 25		40 48	41.9 41.0	35.6 36.0	19 20	İ	46 48	44.9	43.5	II		46*	62.0	39.6	23 21	
50	37.0	33.I	25		50	40.2	35.7	21		50	42.5 45.3	42. I 44.7	14 09		48 50	68.0	46.0 13.8	23 II 24 18	
52	37.I	32.8	25 26		52	38.7	34.0	23 26		52	40.3	39.7	17		52	63.1		23 10	
54 56	36.8	31.9			54 56	36.9	32.3			54	46.3	44.5	09		54 56	64.0	56.6	06	
50 58	36.9 37.5	32.6 32.9	26 25		50 58	33.9	29.9	30		56 58	45.7	44.5	09		56	56.3	53. I	23 15	
00	40.9	34.2	. 21	-6.7	19 00	33·4 32.8	29.7 29.0	31	7.3	21 00	46.0 45.7	44.6 43.5	09 10	-9.9	58 23 00*	24.0 29.0	20.0 15.8	24 06 24 42	
02	42.9	35.4	19		02	33.I	27.8	32	/ .5	02	46.3	44.3	09	9.9	02	66.6	50.6	23 45	
04 06	42.0	39. I	16		04	33.3 33.8	28. I	32		04	44.8	42.5	12		04	67.1	60.6	37	
08	40.4 38.8	34. I 33.0	22 24		06 08		29.0 29.1	31		06	44.3	42.8	12		06*	57.2	50.5	10	
10	38.9	33.7	23		10	33·5 35·0	30.3	31 29		08	44.4	42.2 42.2	12		08 10	55.3	47·7 65.7	23 I4 22 46	
12	38.0	34. I	24	1	12	34.7	30.4	29		12	44.0	41.5	13		12*	72.0 69.0	66.3	22 29	
14 16	37.9	34.0	24	⊤ <del>-</del> 6.8	14	35.I	31.I		7.5	14	42.6	40.3	15	-10.2	14	70.3	61.3	32	
18	37.3	32. I 34. 2	26 23	1	16 18	35·3 36.0	29.0 29.9	30		16 18	43.2	41.2	14		16	69.3	60.3	34	
20	39.5	34.1	22		20	36.1	30.2	29 28		20	44.2	42.2 41.5	I2 I4		18 20	72.4	63.0	29 27	
22	40.I	34.9	21		22	36.8	31.0	. 27		22	43.3	41.5	14		20	76.4	62.3 67.8	22	'
24	41.9	36.0	19		24	35.8	29.9	29		24	43.0	41.6	14		24	73.9	65.6	26	٠,٠
26 28	41.0 42.6	36.0 37.2	20 17		26 28	37.2	32.6 32.8	25	-7.8	26	40.8	39.4	17		26	75.2	65.6 65.8	25	
30	40.0	36.8	20	-6.9	30	37.2 36.7	29.8	25	7,6	28 30	40.3	38.6	18 18	-10.6	28	73.2	65.8 67.3 66.8	25 26	-12
32	40.0	36.o	20		32	37.3	31.1	26		32	40.5	39.0 39.7		-10.6	30 32	73.0 73.8	67.3	25	12
34	40.8	37.7	19		34	37. I	31.1	26		34	40.0	39.0	17 18			71.5	65.3	25 28	;
36 38	40.6	37·5 37·0	19		36 38	37.I 37.I	31.2 31.8	26 26		36	39.0	38.2	19		34 36	66.3	60.9	35	- 15
40	41.5	38.0	18		40	36.8	31.3	27		38 40	40.8	40.2 42.3	16		38 4	67.1	61.0	35 38	,,
42	39.8	36.8	20		42	36.5	31.5	27		42	50.8	50.2	12 01		40 42	65.0 62.5	59.2 56.8	12	
44 46 48	39.0	36.0	21		44	36.0	31.3	27 26	-8.2	44	49.0	48.3	04	-11.0	44	63.2	57.5	42 41	-12
48	41.9	36.7 37.0	18	7.0	46 48	36.3	32.5 32.8	26		44 46	51.2	50.8	00		46	61.3	56.6	43	.
50	42.7 43.8	37.5	16		50	36.9	32.0	25		48	51.3	50.4	22 00	Ì	48	61.1	55.3	44	
52	40.9	36.9	19		52	35.1	31.7	27 28		50 52	53.2 55.3	52.6 54.3	21 57		50	59.8	54.6	45	1
54	40.3	36.9	19		54	35.2	32.4	27 26	1	52 54 56	56.6	55·5	54 52		52 54	58.9	55·3 54.0	45 47	,
50 52 54 56 58	40.2 41.0	36.7	20		56 58	36. <b>o</b>	33.2		1	56	53.0	52.0	21 58		54 56 58	57.0	52.5 54.6	49 46	
20	44.0	37.I	19		50	35.0	32.5	27		58	50.3	47.0	22 04	1	-0	58.6		1 .6	1

Observers—R. R. T. and W. J. P. alternated from 20h 28m to 20h 38m. (W. J. P. 18h 12m and 18h 38m to 18h 42m.)

Correction to local mean time is + 1m o6s.

Torsion head at oh oom read 232° and at 24h oom read the same.

Observers—R. R. T. and W. J. P., who alternated from 20h 28m to 20h 38m.

#### MAGNETIC OBERVATIONS

## Tabulation of magnetic declinations observed at Teplitz Bay-Continued

							Magne						1903					ect—inv	
hr'r ime	Sca read	ings	East decli- nation	Temp. C.	Chr'r time	Sc read Left	_	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
m	d	d	• ,		h m	d	d	. ,	•	h m	d	d	0 ,	٥	hm	ď	đ	۰,	
00	42.8 38.2	46.6	•	-17.o	18 00	38.2 50.6	42.0 62.2	2I 33 2I 58	-15.3	20 00	49.5	52.0	22 27 26	-5.2	22 00 02	53.2 53.7	51.4 50.8	22 3I 32	+0.5
04	34.3	50. I 52.7	13 12		02 04*	35.9	62.0	23 06		02	50.0	50.0 50.3	26	1	04	53.0	49.7	33	!
06 08	35.2	51.9	08		06 08*	II.O	15.0	22 10		06 08	49.5 48.9	50.2	26		06 08	52.7	50.0 48.8	33	
10	39.2 39.2	43.0 42.8	08		10	28.1 24.8	35.0 29.0	2I 50 2I 42		10	48.9	49.6 49.7	25 25		10	53.2	48.9	33	i
12	39.7	43.2	09	-6.0	12	39.1	42.0	22 04		12	47.8	48.5	23		12	53.3	49.2	33	! +1.
14 16	37.I 40.0	40.9 42.5	05	-16.9	14	39·5 48.2	44.0 49.2	17	-14.9	14 16	46.3 46.1	47.8 46.9	2I 20	-5.5	14 16	53.2 52.8	49.3 49.0	33 34	11.
18	38.3	40.9	06	i	18	51.0	54.0	22 23		18	46.4	47.1	21		18	52.0	48.8	34	
20 22	36.8 36.2	39.0 38.0	03		20* 22	46.9	49.5 25.8	23 09 22 32		20 22	47·4 48.2	47.9 48.6	22 23		20 22	51.8	48.8 50.0	34	1
24	35.0	37.0	00		24	23.9	25.9	33		24 26	48.2	48.2	23	1	24 26	53.6	49.3	33	
26 28	35.8 34.3	37.9 36.8	02		26 28	18.0 16.0	18.4 19.3	22 21		26 28	48.8 48.2	48.8 51.2	24		20 28	54.6 54.7	51.0 51.1	31 30	i
30	36.1	37.8	02	-17.2	30	17.0	22.0	24	-14.9	30	48.8	50.9	25 26	-5.1	30	55.7	52.0	29	+2.
32	36.2	40.0 42.9	04		32	18.6	23.6 28.6	27 35		32	48.1	52.9 53.8	27 28	1	32 34	54·5 56.0	51.0 52.9	31 28	
34 36 38	38.1	42.9 42.1	07		34 36 38	24.3		34		34 36 38	48.0	53.9	27	1	34 36 38	55.3	51.9	29 35	
38	37.4	42.2	06		38 40	18.3	24.7 21.0	30		38 40	48.2 49.8	53.8 54.0	27 29		38 40	51.3 49.9	48.9 47.3	35 37	
40 42	40.0 37.1	44.0 42.0	10		42	20.5	23.4	24 28		42	50.I	54.5	30		42	47.2	45.0	41	
44	36. I	38.9	03	-17.1	44 46	18.8		25	-15.0	44	52.0	53.8	30	-2.7	44	48.9	46.1 48.8	39 36	+3.
44 46 48 50 52 54 56 58	34.8 34.8	37.9 37.0	22 00		48	18.4		24 24		44 46 48	51.9	52.7 $52.7$	30	4	44 46 48	52.0	49.9	34	
50	31.5	34.8	21 56			18.6		25		50	51.6	52.0	29 28	1	50	54.2	52.2 52.6	30 30	,
52 54	30.6	33·5 30.8	54 50		50 52 55 56	17.3		22 20		52 54	50.4		28	1	50 52 54 56	54.1	52.2	29	ļ
56	27.0	30.0	49		56	16.1	18.5	21		54 56 58		nvert.			56 58	54.5	52.2 51.2	30	ì
58 00	27.5 30.0	30.9 33.0	50 53	-16.9	19 00	16.3		21 18	-15.3	21 00	53·9 54.0		30	-1.3	23 00	54.2 54.1	52.0	31	+3.
02	32.2	38.0	21 59		02	13.2	18.8	19		02	53.8	52.8	30		02	53.8	52.0	30	1
04 06	34.1 34.2	39.7 39.0	22 02		04 06	14.9		21		04	54·7 54·7	53.6 53.3	28 29		04 06	53.4	52.0 51.2	31 32	
08	35.8	40.9	04		08	16.0	20.9	22		08	54.9	53.2	29		08	52.0	50.7	33	
10	39.2	43.4	10		10 12	15.0		20 19		10	55.2	52.3 52.6	29		I0 I2	51.8	50.7 50.1	33 34	
12 14	40.4 38.7	43·3 42.3	08	-16.5	14	13.4	18.0	18	-15.2	14	54.0	52.2	30	-0.0	14	51.0	50.1	34	+5
16	38.2	41.3	06	1	16	8.1	· ·	02		16	54·9 54·7		30		16	51.2	50.I 50.I	34 34	
18 20	39.6 37.0	41.5 39.1	04		20	4.3		05		20	53.8	51.3	31		20	50.9	49.9	34 36	10
22	38.0	41.1	06		22	7.9		11		22	54.2	51.8 51.4	30 31		22 24	50.1 49.8	49.1	36	1
24 26	39.I 39.2	42.8 42.8	80		24 26	7.1	13.2 12.0	08		24 26 28	53.5 54.2 57.2 58.0	51.2	30		26	50.0	49.2	36	
28	40.0	43.2	09	1 -6 -	28	7.2	11.9	08	-TE 2	28	57.2	52.4	27 26	-0.0	28 30	50.2 50.5	49.4 49.8	35	+5
30 32	39.5 38.5	42.1 43.8	08	-16.3	30 32	13.0		17	-15.3	30 32	58.8	55.0	24	0.0	32	51.1	49.7	35 34	
34	39. I	44.3	10		34	13.2	19.0	19		32 34 36 38 40	59.0 58.8	55.0	24		34	51.5	50.1	34	.
34 36 38 40 42	38.3	45.2	10		34 36 38	17.1 16.2	22.9 22.2	25 24		30	60.1	56.1	25 22		36 38	51.0 51.2		34 35	
40	22.9	33.2	22 04 21 48		40	18.2	23.0	26 28		40	60.2	F6 2	22		40	51.0	48.2	35 36	
42	17.1	25.5	21 37	-16.o	40 42 44 46 48	19.9 19.8	24.2 23.2	28 27	-15.3	42	58.2 57.9 58.3 56.9 56.8	55.8 55.0	24 25	+o.1	42	51.4 51.7	49.7 49.7	34 34	+5
44 46	56.3 Over	57.1 l'k'd	22 33	10.0	44	18.7	22.2	26	1	46	58.3	54.1	25 26	,	46	50.7	49.9	34	
48	Ove	l'k'd	1		48	18.0	22.0	25		48	56.9	54.2 53.1	26		48	50.9		34	
50	Ove	l'k'd 35.2	22 12		50 52	19.3	23.2 21.5	27 25		52	50.0	52.8	27 28		52	51.2	50.4	34	i
54*	15.5	49.7	2I 2I		54	18.3 15.8 17.2	18.9	21		54	56.0	52.0	29		54	52.2	51.1	32	2
44 46 48 50 52* 54* 56 58	40.7	43.0	36		50 52 54 56 58	17.2	19.6 19.7	22 24		42 44 46 48 50 52 54 56 58	55.2 54.6	51.7 51.1	30 31		54 56 58	52.0 51.1		33	
50	37.9	41.0	33		20 00	17.0	18.8	22		"	54.0	<b>U</b>	-	490	24 00	52.4		32	+4

Correction to local mean time is + 1m 33s.

Torsion head at oh 14m read 233° and at the end read the same.

Observers—R. R. T. (W. J. P. 18h 30m to 18h 58m.)

Correction to local mean time is + 1m 34s. 90° torsion = 26.′06. Torsion head at 20h 00m read 270° and at the end read 264°. Observer—R. R. T.

Mond	lay, October	12, 1903	1			Magne	t scale	erect	Tuese	iay, O	ctober	13, 1903			M	agnet s	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp.	Chr'r time	read	cale lings Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp C.
h m	d d		۰	h m	d	d		0	h m	đ	d	0 /	0	h m	d	d	0 ,	
8 00 02	50.5 59.5	22 49	-13.0	10 00 02	40.2 39.3	42.8 39.5 38.8	22 28 24	-12.4	12 00* 02	67.7 78.3	40.4 52.1	22 I0 2I 52	<b>-0</b> .6	14 00* 02	58.6 54.4	56.8 51.5	2I 52 22 00	-0.2
04 06	55.9 56.8 60.7 61.5	51	1	04 06	37.2 38.9	38.8 41.2	22 26		04 06	64.5 56.0	63.0 54.2	2I 54 22 08		04 06	43.2 44.8	42.2 41.5	16 15	
08 10	58.2 58.8 57.5 58.1	54		08 10	42.0	45.0	31		08	60.2	57. I	02 06		о8	38.6	36.2 30.8	24	
12	58.3 58.7	54 54		12	41.9	43.5 43.8	29 30		12	56.3 56.2	56.1 54.1	08		10 12	32.0 33.2	30.0	33 33	
14 16	57.0 57.0 55.8 56.0	52 50	-13.I	14 16	43.8	45.9 45.2	33	-12.3	14 16	57·4 44·7	54·3 40.0	07 28	-1.2	14 16	26.8 26.9	26.2 25.9	4I 4I	-0.2
18 20	55.3 55.7 54.3 54.7			18 20	39.1 40.9	43·5 45.8	28		18 20	42.2 45.8	38.5 42.8	31		18 20	23.4	23.2 18.9	46 52	
22	53.5 54.1	47		22	43.5	47.3	34		22	42.2	38.9	25 31		22	21.9	21.0	49	
24 26	54.5 55.2 53.8 55.0	49 48		24 26	44·3 39.2	48.2 43.2	35 27		24 26	42.0	37·7 40.3	32 28		24 26	16.8	19.4 15.4	51 22 57	
28 30	55.0 56.2 57.7 58.2	50 54	-13.2	28 30	37·4 37·7	40.9 41.8	24 25	-I2.2	28 30	43·3 37.8	38.0 35.2	31 37	-1.6	28 30	12.8	9.3 24.5	23 05 22 44	-1.o
32	51.9 52.9	45		32	34.3	37.9	19		32	47.8	44.0	22 26		32	34.8	32.6 28.4	30 36	
34 36	54.0 54.0 55.8 56.4	47 51		34 36	35.2 33.8	36.9 35.2	19 17	1	34 36 38	44.9 34.7	42.0 33.2	41		34 36 38	31.0 29.2	27.3	38 38	
38 40	55.6 56.1 55.3 56.0	50 50		38 40	38.9 36.7	40. I 39. 2	25 22	1	38 40	36.2	33.8 38.3	40 33		38 40	29.5 28.2	27.4 26.6	40	
42	53.0 53.8	46 47	-13.2	42	37.I 38.2	38.8 40.2	22	-12.0	42	37.0 28.0	34·9 25·3	33 38 22 53	-1.3	42	29.I 31.2	27.2 29.1	38	-1.4
44 46	51.6 52.4	44	13.2	44	42.8	43.I	24 30	12.0	44 46 48	21.3	19.7	23 02	1.3	44 46 48	30.8	28.9	35 36	1.4
48 50	50.3 51.2 49.5 50.6	42 41		48 50	42.2 38.0	43.0 39.6	30 24	1	48 50	26.0	24.3 28.2	22 55 49		50	32.9 37.2	31.3 35.3	32 26	
52 54	51.6 52.5 52.3 53.7	44 46		52	40.0 39.8	41.6 42.7	27 27		52	37.0 40.1	36.0 38.0	37 33		52	36.6 36.9	34.2 34.2	27 27	
54 56	54.7 55.3	49		54 56	35.2	37.2	20		54 56	35.9	33.9	40		54 56	35.4	32.8	29 28	
58 9 00	52.7 57.0 49.3 50.6	49 41	-13.2	58	35.9 38.3	38.4 40.3	21 24	-12.0	58 13 00	28.2 33.0	25.6 29.8	52 45 46	-I.I	58 15 00	36.9 35.5 35.8	33.0 31.8	30	-2.2
02 04	48.2 49.6 48.8 50.2	40		02 04	39·3 35·9	4I.3 37.4	26 20		02 04	32.2	29.0 28.7	46 47	,	02 04	35.8	31.0 30.6	30 30	
<b>o</b> 6	48.3 49.4	39		06	40.0	40.9	26		06 08	29.0	26.6	51		o6 o8	36.9	32.1	28	
08 10	48.2 49.3 46.6 48.8	39 38		08	37.9 38.2	38.1 39.8	22		10	30.7 22.4	27.6 21.6	22 49 23 00		10	39.2 40.4	34.0 34.9	25 24	
12 14	46.5 48.4 47.0 48.6	37 38	-13.0	I2 I4	35.1 33.8	37.I 37.3	19	-11.9	I2 I4	19.2 24.8	17.9 22.0	23 06 22 58	-0.7	I2 I4	39.9	35.0 33.9	23 25	-2.8
16 18	46.3 47.4 42.8 44.4	36 41		16 18	28.3	30.8	. 09		16 18	32.3 22.6	30.7 19.9	22 45 23 0I		16 18	40.7	35.2 35.2	23 24	
20	41.7 43.0	29	'	20	40.3	44.8	. 29	1	20	16.0	12.2	12		20	38.0	33.0	27	
22 24	41.0 42.3 45.0 45.6	28		22 24	43·3 41.2	48.7 47.0	35 32		22 24	18.0	14.0 15.0	09 09	<u> </u>	22 24	36.8 33.2	31.2 28.2	29 34	
26 28	47.0 48.4 44.4 46.2	38		26 28	40.3 48.2	47·7	32 44		26 28	13.7 12.8 10.8	10.0 9.2	16 17		26 28	33.2 31.8	28.8 27.9	34 36 35 32	
30	41.0 41.8	34 28	-13.0	30	40.3	55·4 48.8	33	-11.6	30	10.8	7.3 48.6	20	-0.4	30	31.9	28.7 30.8	35	-3.2
32 34	44.0 45.3 48.6 49.3	33 39		32 34	36.0 29.1	45·9 39·3	. 27 . 16		32* 34 36	53.0 50.7 50.8	47.8	17 20		32 34	33.7 34.7 34.8	31.1	31	
34 36 38	45.5 46.2 42.5 43.8	35 30	,	36 38	35·3 31.2	42.0 37·4	23 17		36 38	50.8	48.4 53.6	19 11		34 36 38	34.8	31.9 32.0	30 31	!
40	43.0 44.5	31		40	29.2 28.4	37.2	15		40	60.1 64.1	53.6 58.0 62.8	23 04 22 58		40 42	35.8	32.9 33.2	29 28	i
44 44	41.0 41.6 40.5 40.8	- 26	-12.9	42 44 46	32.2	37·7 39.0	14 19	-11.5	42 44	68.6	67.0	51	-0.0	44 46	34.2 35.8 35.8 37.2	33.8	27	-3.1
46 48	42.I 42.5 44.0 45.0	29 33		48	27.3 31.6	33.9 37.9	11 17	ŀ	46 48*	73.0 64.2	70.0 55.7	45 32	1	. 48	40.7 40.I	36.8 36.8	22 22	
50	45.0 45.5 42.6 42.8	34 30		50 52	26.0 37.0	29.3 39.4	o6 23	1	50 52	64.2 61.6 66.4	58.0 62.6	32 24		50 52	40.0	37.6 37.2	22 22	
42 44 46 48 50 52 54 56 58	41.2 43.8	29 30	!	54 56	38.8	45.2	29		54	73.0	68.3	15		50 52 54 56 58	40.4	38.2	21	
56 58	42.4 43.1 41.3 44.0	30 30		58	27.2 23.9	29.3 28.8	07		54 56 58	72.5 77.6	69.2 75.2	22 06		50	41.2 42.3	38.6 38.7	20 19 21	-3.2
_				12 00	27.3	31.8	09						,	16 00		37.9	21	1

Correction to local mean time is + 55s. 90° torsion = 24.77.
Torsion head at 8h 02m read 246° and at 12h 00m read 249°.
Observers—W. J. P. and R. R. T., who alternated from 9h 44m to 10h 00m.

Correction to local mean time is + 42s.
Torsion head at 12h oom read 327° and at the end read the same.
Observers—W. J. P. and R. R. T., change at 14h 04m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

hr'r ime	Scal readii Left I	ngs	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
m 00*	d 53.9	d 57.8	。 , 23 17	° -9.6	h m 2 00	d 54.6	d 58.5	23 17	-8.3	h m 4 00	d 47.1	d 54.9	23 30	°   -8.2	h m 6 oo	d 37.8	d 39.4	23 32	-8.0
02 04* 06	22.6 3 14.8 2	56.8 36.1 29.6	32 23 04 22 52	,	02 04 06	55.8 61.0 72.2	61.7 66.0 77.8	21 28 46		02 04 06	39.0 37.1 42.3	46.7 45.6 50.4	18 15 23		02 04 06	35.2 33.1 30.6	38.8 37.0 33.8	30 26 22	
08 10* 12	1.8 56.0 (	3.2 63.2	22 44 21 58 23 28	-8.8	08* 10 12	42.6 50.5 57.7	44.0 54.2 58.8	23 47 24 01 10 24 08	-8.2	08 10 12	42.7 44.9 56.0	51.1 50.1 67.8	24 25 47	-8.3	08 10 12	29.9 29.8 29.0	33.7 33.7 33.0	2I 2I 20 20	<b>-</b> 7.8
14 16 18 20	40.1	53.4 45.8 41.8 38.8	23 02 22 58 22 54	-0.0	14 16 18 20	56.2 37.6 24.3 15.2	56.9 40.1 29.2 21.9	23 40 21 08	-0.2	14 16* 18* 20	58.9 44.5 23.1 20.3	59.7 55.9 33.2 35.3	23 43 22 14 24 42 42	-6.3	14 16 18 20	29.0 27.5 28.0 29.2	33.1 32.9 32.8 33.2	19 19 20	7.0
22 24 26	44.1 4 55.4 (	46.5 62.1 45.6	23 05 26 02		22 24 26	25.2 41.2 36.9	31.4 47.5 41.1	23 48 40		22 24 26*	10.4 10.2 63.9	19.3 18.9 74.9	21 24 21 25 08		22 24 26	27.I 24.2 22.8	31.1 29.0 26.0	17 13 10	
28 30 32	44.8 37.2	49.2 41.8 37.2	23 08 22 56 49	-8.5	28 30 32	48.2 46.1 23.3	51.8 53.3 35.6	57 57 25	-8.4	28* 30 32	47.4 53.1 48.8	56.9 59.7 58.9	11 18 14	-8.o	28 30 32	26.1 25.1 23.9	29.7 28.7 27.2	15 14 12	-7.6
34 36 38	32.5 36.8	33·5 37·4 41.2	43 49 55		34 36 38	23.6 19.3 29.8	30.6 28.1 38.9	21 16 33		34 36 38	63.3 44.8 13.9	64.8 55.7 19.8	30 25 08 24 16		34 36 38	25.2 28.3 27.6	28.8 30.6 30.5	14 18 17	1
40 42 44	27.2 16.6	44.4 31.4 22.3	57 40 24	-8.6	40 42 44* 46*	40.5 53.3 54.4	48.6 64.3 58.0	23 49 24 11 25 08	-8.4	40 42* 44 46	6.0 38.8 35.8	17.8 48.2 43.6 60.5	24 08 23 40 23 34	-7.9	40 42 44 46	26.7 28.1 27.1 26.3	28.2 29.5 28.2 27.6	14 17 15	-7.
46 48 50	19.3	21.9 24.2 23.9 20.6	24 28 28 23		48 50* 52	50.2 16.8 52.9 34.0	62.8 29.9 60.1	25 45 24 53 27 01		48 50 52	56.5 60.9 62.3 55.4	65.8 73.9 68.1	24 03 11 18 08		48 50 52	29.2 29.2 27.8	29.9 29.7 28.9	14 18 18 16	
52 54 56 58	13.9 14.2	18.3 17.8 15.9	19 19 16		54 56* 58	62.1 36.8 47.3	45.9 66.1 56.2 51.9	24 29 25 33 38		54 56 58	60.0 54.5 37.9	76.0 55.8 42.0	24 18 23 58 34		54 56 58	27.0 26.1 26.9	28.3 27.3 27.0	15 13 14	
00 02 04*	12.9 12.1	15.9 15.0 50.3	16 15 19	-8.5	3 00 02 04*	25.4 21.2 46.6	42.0 26.5 60.1	25 13 24 57 23 49	-8.4	5 00 02 04	36.7 32.8 26.8	39.1 35.8 30.9	31 25 17	7.8	7 00 02 04	24.3 21.8 23.1	25.0 23.0 23.9	07 08	77.
06 08 10	46.3 48.4	50.7 49.6 51.1	19 18 20			44.0 43.3 68.8	55.0 61.2 71.8	23 47 24 15		06 08 10	25.1 24.0 21.3	28.6 26.7 23.8	14 11 07		06 08 10	25.3 28.7 31.3	26.8 29.2 32.3	12 17 21	
12 14 16 18	55.0 58.8	55.0 58.0 61.5 66.2	26 31 37	-8.4	12* 14 16 18*	34.8 32.7 28.6 55.7	49.2 40.8 30.4 57.3	44 36 25 24 19	-8.4	12 14 16 18	19.0 19.6 20.8 20.7	2I.I 2I.7 22.2 22.7	03 04 05 06	-8.o	12 14 16 18	30.4 30.3 31.7	31.0 31.9 31.3 32.3	19 20 20 22	
20 22 24	67.1 66.8	70.0 69.2	44 50 49 55	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	20* 22 24	30.6	41.5 40.6	25 16 25 19 24 56	ļ   	20 22 24	20.6	22.7 22.1	05 05 06		20 22 24	32.4 33.0 34.2	34·4 34·9	24 25 26	1
26* 28 30	36.I	74.0 45.2 42.0 43.8	55 50 53	-8.4	26* 28 30*	23.6 22.2 56.5 36.6	34.9 66.1 48.1 55.8	23 57 24 48 25 20	-8.2	26 28 30	21.6 22.7 23.8	24.3 24.8 25.8	07 09 10	-8.o	26 28 30	32.0 33.5 32.8	35.2 33.8 34.7 34.0	23 25 24	, <del>-</del> 7.
32 34	40.5 40.1 42.4	46.0 44.2 47.9	57 22 55 23 00		32 34 36*	40.2	55.8 69.9 38.0 rl'k'd	25 34 26 03 26 00		32 34 36	28.0 27.0 29.0	29.4 28.3 31.0	16 15 19		32 34 36	32.8 33.6 33.4	34.8 35.3	24 25 25 26	1
36 38 40 42	48.2 51.7	49.2 54.1 57.0	02 09 14 18	0 -	38* 40 42	28.4	45·7 27.I	25 I5 24 54 18	-8.1	38 40 42	33.2 35.0 39.3 38.7	37.I 4I.I	25 28 35	-8.o	38 40 42	33.7 33.0 32.1 34.0	35.3 35.0 34.0	25	
44 46 48	48.6 42.8	59.2 50.6 50.1	07 02	-8.3	42 44* 46 48	38.1 31.3 25.2 9.2	45.2 44.2 32.6 15.9	24 I2 23 58 32	0.1	44 46 48 50	40.0 44.0 44.7	42.4 45.7	34 36 42 43	0.0	44 46 48 50	34.0 33.9 33.1	35.7 35.0	26 26	,
44 46 48 50 52 54 56	60.0 ( 62.2 (	60.2 64.2 65.8 61.7	22 26 29 24		50 52* 54 56 58	43.0 43.8 43.3 45.8	52.4 52.0 50.9	25 25 24		52 54 56 58	43.0 42.0 41.2	44.9 44.0	40 39 38		52 54 56 58	34.I 33.8 33.0	36.0 36.1	26 26	•

Tabulation of magnetic declinations observed at Teplits Bay-Continued

									1		1					Ī			
Chr'r time	Sca read Left	0	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temy C.
h m 8 oo	ď	d	0 /	° -7.0	h m	d 29.8	d 38.4	0 ,	-6.5	h m	d 29.0	d 30.0	22 32	-5.6	h m	d 32.8	d 33.8	22 38	, -5.1
02	33.5 35.1	35.2 36.0 36.3	23 25 27 27	7.0	02	42.7 47.3	46.1 49.3	22 39 22 56 23 02	0.5	02 04	31.6 35.2	31.8 36.2	36 42	5.0	02	31.3 29.0	32.9 30.5	36	5.
04 06 08	34.1 34.1	36.1	27 26		06	49.2 50.6	51.4 51.6	05		06 08	45.0	46.0 38.2	57	· !	04 06 08	27.9 26.7	29.1 27.6	31 28	1
IO	33.7 32.0	35·4 34·2	24 21		10	4I.0 46.8	42.8	23 06		10	35·4 27·5	30.0	44 31		10	23.3	24.7	24	
12 14	30.7 27.0	33.0 29.9	16	-7.o	I2 I4	54.4	48.0 56.3	23 00 13 23 08	-6.5	12 14	39.4 35.6	40.9 37.6	49 22 43	-5.6	12	22.8	24.0 22.8	23 21	-5.0
18 16	24.0 24.0	26.9 26.7	H	i	16	51.5 44.5	53.0 45.0	22 56	1	16 18	48.1 56.5	51.2 58.7	23 04 16		16 18	21.6	22.7 24.3	21 24	
20 22	22.3	25.4 23.0	09 05		20 22	37.2 36.8	37·7 38.2	44 45		20 22	56.9 49.4	57·4 50.2	15 04		20 22	25.8 25.6	26.9 26.5	27 27	
24 26	19.6 18.5	23.3 23.3	05 04 06		24 26	36.8 37.3	37.8 38.3	44 45 36		24 26	Slow	50.9 ly`in-	05		24 26	23.0 17.2	23.6 18.2	22 I4	
28 30	19.9 21.5	24.3 24.5	08	-6.7	28 30	32.2 35.5	32.3 37.0	36 43	-6.5	28 30	crea 51.1	sing 51.8	07	-5.4	28 30	15.8 17.8	17.4 19.3	12	_5.c
32 34	22.0 22.0	25.3 24.0	09 08		32 34	34·4 30.2	36.4 30.9	41 34	1	32 34	49.8 51.2	50.4 52.8	05 07		32 34	23.0	24.4 22.9	23 21	
36 38	19.7 16.0	22.0 17.4	23 04 22 58		34 36 38	25.5 27.1	26.8 28.9	27 30		34 36 38	52.4 57.8	53·9 59·4	09 18		36 38	25.0 25.9	26.4 27.0	26 27 26	
40 42	16.0 15.6	17.6 16.2	58 57		40	32.5 32.5	32.8 33.8	37 38		40 42	58.3 57.2	59.7 59.2	18 17		40 42	25.2 25.3	26.4 25.6	26 26	
44	15.0 13.6	16.2 14.7	56 22 54	-6.7	44 46 48	35·4 29.8		43 34	-6.6	44 46	55·7 55·7	58.0 58.4	15 15	<sup>-</sup> 5⋅4	44 46 48	23.9 19.5	24.4 20.9	24 17	-5.c
46 48 50	17.8	18.6 18.4	23 00 22 58		48 50	28.7 28.7	29.7 31.5	32	1	44 46 48 50	55.8 55.9	58.4 58.4	15 15		48 50	19.0 21.4	20.I 23.3	17 21	1
52	23.6 23.1	25.4 25.1	23 IO 23 O9		52	31.1	32.5 35.1	33 36 40		52 54 56	50.2 52.4	52.6 54.9	07 10		50 52 54 56	24.I 25.3	25.0 26.9	24 27	
54 56 58*	14.7	17.6 36.0	22 57 28		54 56 58	33.5 27.8 23.0	30.6	32 24		56 58	50.2 50.2	52.9 53.3	07 07	1	56 58	27.2 29.0	28.0 30.0	29 32	
00	9.1	14.5 38.0	04	-6.5	11 00	27.4 34.8	30.7 36.2	3I 42	-6.4	13 00	47.4 43.1	50.0 45.7	23 02 22 56	<del>-</del> 5⋅4	15 00 02	28.0 27.3	29.2 29.0	31 30	-4.8
04 06	29.6 28.8	34.6 36.8	27 36 37		04	35.2 35.0	37.2	43 44		04 06	39.0 37.9	41.9	49 47		04 06	27.I 20.5	28.9 27.5	30	
08	32.6	37.2 37.8	40 42	; i	08	38.3 38.9	4I.9 42.7	49 50		08	38.5 38.5	4I.3 40.4	48 47		08	25.3 27.2	28.0 30.9	24 28 31	
12	35.0	38.3 33.8	43	-6.5	12	39.6 38.7	41.6 40.8	50	-6.0	12 14	39.5 39.7	40.9	49	-5.4	12 14	28.6 27.7	30.7	32 32	-4.8
14 16	29.3 28.6	32.0	35 33	0.5	14 16 18	43.6	46.0	50 48 56 58	0.0	16 18	37.5	39.2 38.8	49 46	3.4	16 18	27.6 28.6	31.2 31.4	32 33	4.0
18 20	33.0 33.5	35.6 37.0	40 41		20	45.4		54		20	37.3	38.8	45 46 42		20 22	28.6 29.0	30.8 31.6	32	1
22 24	32.0 4I.0	35.6 44.0	39 52		22	33.0	33.9	40 38		22 24	35·3 33.6	35.7 34.3	39		24	28.0	30.6 30.6	33 32	
26 28	42.2 41.8	45.2 44.0	54 53 43		26 28	28. I 23. 0	31.4 25.0	32 24	6 -	26 28	32.0 36.7	32.0 37.3	36 44		26 28	28.0 28.6	31.1	32 33	
30 32	35·3 36·3 37·2 37·1	37·7 38.8	43 45	-6.5	30	22.5 23.5 21.8	23.0 24.5	2I 23	-6.0	30 32	37·9 37·9	38.4 38.9	44 46 46	-5.4	30 32	30.7 34.0	33·7 34.8	33 36 40	-3.9
34 36 38	37.2 37.1	39.2 39.3	45 46 46		34 36	19.6	20.8	21 18	]	34 36	35.9 36.4	36.6 37.4 28.0	43 44		34 36 38	34.9	35.9 36.5	41	1
38 40	41.3 46.3	44.0 47.3	53 59 22 58		38 40	20.0	20.3 22.4	17 20		38 40 42	27.0 37.2 38.1	38.2 38.8	29 45		30 40	34.3	36.7 36.8	42	!
42 44	41.3 46.3 45.3 45.8	47·3 48.6	22 58 23 00		42 44 46	21.6 19.9	22.6 20.2	20 17	-5.5	44	38.1 37.9 37.8	38.4	45 46 46 46 46	-5.3	42 44	35.0 34.9 33.8 34.3 36.8 35.9 35.8 37.5 38.2	39.9 38.4	40 44	-3.8
46 48	44.5	46.6 46.3	23 00 22 57 57	-6.5	48	20.0 24.0	21.0 24.1	18 24		46 48	37.9	38.9 38.8	46 46	į	46 48	35.8	37·3 41.0	43 47	84
50 52	44.0 45.8 47.4	47.3	22 59 23 02		50 52	23.5	23.5 25.0	23 24		50 52	37.9	39.3 38.0	46 45		50 52	38.2 37.3 38.1	42.8 41.7	41 42 41 42 46 44 43 47 48 46 47	35
40 42 44 46 48 50 52 54 56 58	47·3 40·3	49.4 48.7 42.0	23 0I 22 50 36		54 56 58	24.0 18.7 12.6 23.2	20.8 13.2 25.8	17 06	1	54 56 58	36.2 36.7	37.8 37.7 35.9	44 44		40 42 44 46 48 50 52 54 56 58	38.1 37.3 38.6	41.3 39.6 39.8	48 46	

Observers—R. R. T. and W. J. P. alternated from 8h 26m to 8h 38m. (F. L. made a few alternations with W. J. P. 11h 04m to 11h 14m.)

Observers—W. J. P. and R. W. P. alternated 12h 04m to 12h 18m. R. W. P., F. L., and R. R. T. alternated 14h 58m to 16h 02m. (R. R. T. 13h 20m to 13h 56m.)

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

hr'r time	Scal readin	ngs	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
	d	d	0 ,					. ,					. ,		1			. ,	•
00	40.0	40.9	22 49	-3.5	h m 18 00	11.0	d 13.1	22 05	-4.0	h m 20 00		18.0	21 55 58	-3.3	h m 22 00	d 13.5	d 13.5	22 16	-3.1
02 04		38.9 36.7	46 43	ļ	02 04	14.3	15.9 17.4	I0 I2		02 04	15.4 16.0	18.8 19.6	58 59		02 04	12.9	13.1 12.2	15	
06	33.9	34.9	40		06	16.0	20.8	15		06		19.2	54		06	10.8	11.4	12	
08		33·4 32.0	37 35	,	08 10	18.6	21.3 27.0	. 17 24		08*	4I.0 39.9	50.0 49.2	43 21 41		08	11.5	I2.0 I2.0	13	
12	28.9	30.4	32		12	18.7	20.9	17		12	63.9	63.9	22 12		12	12.6	12.8	15	1
14 16	-	26.9 25.7	27 25	-3.5	14 16	17.3	19.3 12.8	15 04	-4.0	14 16*	Lo 14.9	st 67.0	22 29		14 16	12.4	12.8 12.8	15 15	-3.2
18	22.I	24. I	22		18	10.2	13.1	04		18	67.3	73.9	23 15	-3.2	18	13.2	14.6	17	
20 22		23.9 23.4	22 2I		20 22	13.6	15.8 20.3	15		20 22	37.6 54.3	73.1 56.7	22 5I 22 5I		20 22	15.4 19.6	15.6 20.5	19 26	
24	20.8	22.0	20		24	16.2	19.3	13	1	25	5.0	31.3	21 53		24 26	19.5	20.7	27	
26 28	=	21.2 19.6	18		26 28	11.5	16.6 18.3		1	26* 28	28.7	41.8	19		26 28	22.3	23.2 23.4	31	
30	16.4	16.7	15 12	-3.7	30	16.9	19.9	09	-3.8	30	47.3 60.0	63.9	2I 5I 22 00	-2.8	30	20.3	23.4 22.I	31	-3.2
32	15.0 16.1	16.4 16.8	10		32	20.7	$\frac{25.7}{22.8}$	22 18		32	33.3	41.5	21 22		32	19.3	19.5	25 18	
34 36 38		20.2	I2 I7		34 36	17.9 17.4	20.8	16		34 36*	59.6 28.3	76.2 40.3	22 I0 22 40		34 36	14.3	14.7 18.5	24 28	
38		21.9	19	1	38	18.4	26.0	21	1	38*	11.5	26.0	21 51		38	20.4	21.2 30.6		'
40 42		23.2 24.0	22	İ	40 42	13.8	22.2 25.3	14 18		40 42	34.8	39·4 33·3	22 20 21 58		40 42	30.2	46.3	22 43 23 05	
44		27.4	28	-3.8	44	12.5	19.8	II	-3.7	44 46 48	24.2	36.0	22 09	-2.5	44	39.0	44.5	23 00	-3.3
44 46 48		29.1 27.9	31 29	i	46 48*	8.7	14.3 50.8	04 12	!	48	33.5	54.0 38.8	38 18		44 46 48	30.6 34.4	33·4 37.8	22 45 52	i
50	28.2	28.9	30		50	41.2	47.0	22 07	i	50 52*	34.7	43.3	22 23 23 48		50	18.6	20.8 28.0	26	
50 52 54 56	_	28.6 29.2	30 31		52 54	32.0	$37.3 \\ 33.2$	2I 52 2I 46	4	52**	49.5	63.8	23 40		52 54	24.8	27.8	36	!
56	27.I	28.2	20		56	68.2	72.8	22 48	1	56*	59.7	71.3	25 4I	1	56 58	20.6	23.8	30	
58 00		27.4 27.8	28 29	-4.0	58* 19 00	47.1 16.8	71.1 24.8	23 04 22 04	-3.4	58 21 00	39.0 13.3	48.0 13.7	25 07 24 19	-2.9	23 00	15.3	17.7 18.3	21	-3.2
02	26.8	27.3	28		02	8.3	13.2	21 48	1	02*	23.3	24.5	22 33		02	14.6	18.8	21	
04 06		25.9 25.4	26 25	1	04 06	14.2	20.6 20.1	58 56	i	04 06	17.4	18.8	. 23 28		04 06	18.0	24.7 21.0	31 26	,
08	22.7	24.0	22	1	о8	12.0	18.4	55		08	21.7	25.0	32	[ .	08	16.4	20.0	23	
I0 I2		23.8 20.9	22 18	1	I0 I2	11.3	17.0 19.8	53 21 57		10 12	13.5 13.0	16.2 16.2	18 18		10 12	18.9	21.4 23.8	27 29	
14	17.0	18.1	13	-4.0	14	17.1	24.I	22 03	-3.0	14	15.5	18.4	22	-2.9	14	23.0	27.6	35	-3.3
16 18		17.5 17.5	I2 I2	1	16 18	15.7	23.I 22.9	OI	1	16	19.0	22.8	28 25		16	23.5	28.2 26.0	36 32	i
20	16.0	17.5	12		20	15.0	22.0	22 00		20	14.2	18.4	21		20	17.4	27.6	30	
22 24	16.6	18.0	13	1	22 24	13.1	19.5 16.8	2I 57 53		22 24	13.8	17.2 17.2	19 19		22 24	23.2 37.2	37.2 44.8	42 22 59	1
26	15.8	15.7	10	1	26	14.0	19.3	57	1	26	11.6	14.6	ıб		26	43.8 67.9	51.0	23 09	
28	14.2	15.2	09	-4.0	28 30	11.1	21.9 21.9	57 57	-3.0	28	10.6	13.6	14 14	-3.0	28 30*	65.0	74·3 75·3	23 47 24 04	-3.
30 32		16.1 17.3	10 11	-4.0		10.2	19.2	54	]	32	12.2	15.2	17	3.0	32	32.3	36.3	23 08	1
34 36 38	14.9	17.0	11		34 36	13.8	17.0 18.2	55 56		34 36	13.1		18 17		34* 36	27.6 38.0	31.3 42.6	22 II 28	
30 38		15.3 14.9	09 08		38	14.3 14.8 12.8	18.2	57		38	12.6	15.1	17		34* 36 38	41.3 66.0	47·5 68.0	22 34	
40	11.9	12.9	05	1 1	40	12.8	15.3	53		40	14.7	17.4 13.6	20 I4		40 42	66.0	68.0 74.8	23 10	
42	12.7	13.9 25.0	07 22	-4.0	42 44	13.0 16.2	15.3 18.6	53 21 58	-3.2	42 44	11.3	15.8	18	-3.o	44	73.2	77.I	24	
46	24.9	31.1	30	1	46	18.2	21.5	22 02		46 48	13.2	15.1	17		44 46 48*	64.2	69.8	10	
48		28.1	23 19		48 50	16.0	23.I 22.0	05 22 01		48 50	I2.0 I2.0	13.6	15 15		50	51.6 34.3	40.3	38 23 II	
50 52	16.9 2 12.2 2	20.8	19		52	13.3	19.9	21 57		52	13.0	14.1	16		52	22.6	28.3	22 53	}
54	20.0	22.0	19		54 56	13.1 12.7	18.8 18.1	56 55		54 56 58	8.7	13.2 10.3	14		54 57 · 5	39.7 25.6 37.0	52.1 26.3	23 25 22 53	
44 46 48 50 52 54 56 58	26.0 2 12.3 1	28.8	29 07		50 58		15.3	55 52		58	12.0	13.8	15		58	37.0	37.0	23 11	

Observers-R. R. T. and W. J. P. alternated from 20h 20m to 20h 32m. (W. J. P. 18h 20m to 18h 26m.)

Correction to local mean time is + 30s. 90° torsion = 26.'1.
Torsion head at oh oom read 327° and at 24h 10m read 324°.
Observers—R. R. T. and W. J. P., who alternated from 20h 20m to 20h 32m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Thur	sday, Octobe	r 15, 190	03		Ma	gnet s	cale inv	erted	Frida	y, Octo	ber 10	б, 1903				Magne	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	Scal readir Left I	ngs	East decli- nation	Temp. C.	Chr'r time	read	cale lings Right	East decli- nation	Temp C.
h m 16 00	d d 59.1 47.0	22 31	-0.0	h m 18 00	d 43.1	d 40.7	22 48	-1.3	h m 20 00*	d 45.2	đ 45.8	。, 22 22	• -II.2	h m 22 00	d 26.2	đ 35.0	0 ,	•
02	60.6 47.7	29	,	02	41.8	40.0	50	1.3	02	40.0	42.2	16	i	02	38.3	47.2	22 03 22	-9.0
04 06	55.3 50.7 52.0 48.6	31		04 06	41.8 42.8	40.2 42.0	49 47		04 06		40.2	12 15	I	04	32.1	43.6 43.1	I4 I2	
08	53.3 49.8	33		08	44.7	43.0	45		08	50.6	55.5	22 34		08	38.0	39.3	16	,
10 12	55.7 51.5 57.4 53.4	30 27	:	10 12	46.3	44.7 43.8	42 44	1	10* 12		52.0 67.2	23 19 37		10 12	33.I 33.7	35.9 37.0	09 11	,
14 16	59.7 56.0	23	-0.2	14 16	45.0	43.3	45	-I.6	14	58.4	60.1	23 31	-10.8	14	27.7	31.8	22 02	
18	62.2 54.9 62.9 55.1	22 21		18	49.0	46.5 41.5	39		16 18	17.1	32.4 21.3	22 45 29		18	25.9 26.6	29.7 30.5	2I 59 22 00	
20 22	62.6 57.7 62.8 55.6	20 21		20 22	47.0 46.6	45.2	41		20 22*	8.5	11.7	14		20	33.9	36.0	10	
24	62.9 56.2	20		24 26	44.3	44.9 42.4	42 46		24 26		68.3 55.7	08	1	22 24	40.3 39.1	42.2 41.2	20 18	
26 28	64.0 57.9 64.7 57.8	18		26 28	43.0 44.I	41.6 42.7	47 46	1	26 28		54.7	07 09		24 26 28	36.3	39.2 38.3	14	
30	63.7 57.2	10	-0.4	30	45.5	44.3	43	-I.8	30	54.1	55.4 57.0		-10.5	30	35.6	36.0	13 10	-8.7
32 34	61.8 55.7 61.3 55.3	22	1	32 34	45·4 47·7	46.6 46.6	42 40		32		57.0 57.8	12 14		32	35·3 36.5	37·4 39·2	12 14	
34 36	58.1 51.5	28	'	34 36	48.2	47.0	39 38		34 36 38	56.7	57.7	14		34 36 38	36.5	38.8	14	
38 40	58.5 52.0 57.8 51.2	27 28		38 40	49.1	47.9 48.6	30		38 40		57.8 60.0	15 16		38 40	36.0	39.1 36.9	14 10	
42	58.1 52.2	27	~0.6	42	50.3	49.3 48.1	37 36 38	-2.0	42	58.2	59.8	17		42	33.0 38.5	41.8	18	
44 46 48	58.0 53.3 60.3 56.5	27 22	-0.0	44 46	49.1 51.0	50.0	35	-2.0	44 46 48		59.7 59.8	14 13	-10.3	44 46 48	35.9 35.8	37.8 38.4	13 13	<b>-</b> 9.0
48 50	60.5 56.2 58.5 54.0	22 26		48 50	51.8	50.7 51.6	33		48		59.3 59.9	16 15		48	37·3 36.3	40.3 38.8	13 16	
52	54.2 49.8	32		52	53.5	52.4	31		50 52	50.I	51.2	04		50 52	38.3	40.6	14 17	
54 56	54.3 50.9 55.0 51.3	31		54 56	52.8	52.0 51.2	32 33		54 56	49.2	49.3	22 02 21 56		54 56 58	39.4 42.1	41.4 43.5	19 22	
58	50.9 47.3	37 38	i	58	52.2	51.5	33		58	45.7	46.8	57		58	42.9	44.3	24	
17 00 02	49.9 46.3 49.1 46.6	38	-0.7	19 00 02	51.4	50.9 49.6	34 35	-2.1	2I 00 02	Los Los			-10.0	23 00 02	38.6 41.0	40.3 41.8	17 20	-9.2
04	45.8 42.9	44		04 06	49.8	49.I	36 36		04* 06*	48.0		22 02		04	42.8	44.3 41.8	23	
o6 o8	49.8 43.8 36.9 33.8	40 58	i ,	08	49.8	49.1 48.6	37		08*	34.I 19.2	58.0	23 16 24 18		o6 o8	40.9 39.0	39.5	20 17	
10 12	37.2 35.0 37.3 36.2	57 22 56	i	10 12	48.3	47·4 46.8	39 40		10* 12		39.2	23 28	1	I0 I2	37·5 36.2	38.3	15	
14	34.6 32.3	23 01	-0.7	14	47.4	46.7	40	-2.2	14		54·5 32.0	44 23 15	-9.4	14	39.8	37·4 40.6	18	-9.3
16 18	30.2 26.8	23 03		16 18	47.1	46.7 46.5	40 41		16* 18		54.2 50.5	22 13 25		16 18	40.0	40.9 41.8	18 20	
20	36.2 33.2	22 59		20	45.8	45.6	42		20	41.0	48.6	25		20	43.6	44.2	24	
22 <b>2</b> 4	33.9 31.8 31.3 28.6	23 02 07		22 24	45.6	45.4 <b>45.7</b>	42 <b>42</b>		22 24	38.8 A	42.1 46.8	19 22 22		22 24	44.8 45.0	45·4 45·3	26 26	
26 28	20.I 23.0	12		26 28	45·3 44.8	44.9 44.4	43		26 28	10.1	29.3	21 46		26 28	44.5	45.0 i	25	
28 30	21.3 17.8 11.8 11.2	23 36	-r.o	30	45.3	44.9	44 43	-2.5	30	29.3	24.4 33.2	2I 52 22 04	-9.0	28 30	44.5 44.4 46.0	44.8 46.0	25 27	-9.3
32	12.2 9.0 23.0 20.1	37 20		32	45.6 47.1	45.1 46.6	43 40		32	26.0	29.0 25.8	21 58 21 53		32	40.5	47.0 48.9	27 28	
34 36 38	24.7 22.0	17		34 36 38	47.3 46.8	46.6	40		34 36 38	30.6	34.3	22 06		34 36 38	48.9	50.1	32 33	
38 40	27.2 25.2 26.2 24.0	13 14		38 40	46.8	46.5 45.6	4I 42		38 40	49.8	54.2 65.9	37 55		38 40	50.5	50.5 50.0	34	
42	28.1 25.2	12		42	46.2 45.8	45.3	42	. 0	42	55.2	59.2	45		42	47.6	48.0	33 30	
44 46	32.2 29.8 35.9 33.8	23 05 22 59	-I.O	42 44 46 48	45.4	45.0 44.8	43 43	-2.8	42 44 46 48		40.2 46.8	13 25	-9.0	42 44 46 48	47.6 48.4 47.8 48.6	48.8 48.0	31 30	79.4
44 46 48 50 52 54 56 58	39.3 37.1	54 58	1		45.2 44.8	44.3	44		48	45.7	49.2	29		48	48.6	48.8	32	
50 52	37.0 34.2 .37.8 36.2	58 56		50 52	45.0 45.0	44·5 44·5	44 44		50 52		40.7 36.8	14 09		50 52 54	49.5 50.8	49.7	33 36	
54	40.7 39.1	51		54	45.0	44.5	44		52 54	30.0	34.2	06		54	51.2	51.6	36	
50 58	41.2 39.4 42.0 40.0	51 49		56 58	45.0 44.6	44.3 43.9	44		56 58	30.9 : 47.3 :	35.2 50.6	07 32		56 58*	49.7 49.8	50.5 50.2	34 38	
_		i		20 00	44.7	44.3	44							24 00	50.5	51.2	39	-9.0

Correction to local mean time is + 30s. Torsion head at 15h 40m read 327° and at 20h 24m read the same. Observers—R. R. T. and W. J. P., who alternated from 18h 18m to 18h 30m. Correction to local mean time is + 44s. 90° torsion = 25.'3. Torsion head at 20h 00m read 336° and at 24h 25m read 341°. Observers—R. R. T. and W. J. P., who alternated from 22h 14m to 22h 30m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

				11										[]			_	
Chr'r time	Scale readings Left Rig	natio	- Temp.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Tem C.
n m	đ	ı °	, .	h m	d	d	. ,	•	h m	d	đ	۰,	٥	h m	d	ď	0 /	
00	45.8 44 46.2 45	.8   22 2 .6   2		2 00	31.0	31.0 32.2	22 48 46	-13.2	4 00†	35.6 71.0	34.0 76.0	<b>22 42</b> 45		6 00	42.0 43.2	42.8	22 4 <b>7</b> 50	-13.2
04	45.4 45	.0 2		04	30.2	30. I	50		04	73.0	77.0	47	-12.8	04	39.3	44.7 39.8	43	
06 08	39.0 38 39.8 38			06	30.6	30.6	49 51		06 08*	71.2 36.6	75.2 42.0	45 43		o6 o8	35.3 35.8 38.1	36.3 36.3	37 37	
10	41.6 40	.6 3	2	10	32.8	32.6	46		IO	34.9	39.9	40 38		10	38.1	36.3 38.8	4 <b>I</b>	
I2 I4	39.0 37 35.1 34		7   -13.2	12 14	36.6 33.8	36.0 33.0	40 44	-13.0	I2 I4	33·7 32·3	39.8 37.7	38 36	-12.3	12 14	38.3 39.8	40.I 40.2	42 44	-13.3
16	41.0 40	.2 3	3	16	37.0	36.5	39	-3	16	31.6	37.0	35		16	43.7	44.8	50	
18 20	44.6 42 44.0 42			18 20	38.5	37·9 39·4	37 34		18	31.7	36.9 36.8	35 35		18 20	45.I 50.0	45·4 50.8	52 22 60	
22	41.6 39	.6 3	3	22	39.1	38.6	34 36		22	33.9	38. <b>3</b>	35 38		22	52.6	54·3 56.8	23 05	
24 26	38.2 29 38.6 37		4 7	24 26	37·5 36.4	37.0 35.9	39 40		24 26	35.6 34.0	39.7 37.9	40 37		24 26	56.3	56.5	10 09	
28	38.4 36	.6 3	8	28	35.5	34.8	42		28	32.8	37.0	36		28	55·3 57.8	58.o	12	
30 32	39.0 37 41.2 39	.5 3 .8 3		30 32	34.6 32.6	33.6 31.8	43 46	-13.0	30 32	28.9 27.8	33.8 32.9	30 28	-I2.2	30 32	56.2 57	57.0 .ob	10 10	-13.5
34 36	42.8 41	.0 3	I	34	34.2	33.0	44		34	31.8	36.8	35		34	54.0	54.2	06	
30 38	43.6 42 47.0 45	.4 2		34 36 38	34.8 35.2	34.0 34.4	43 42	1	34 36 38	39.6 40.9	44.8 45.7	47 49		34 36 38	54.0 54.0	54.7 55.8	06 07	
40	48.6 47	.3 2	2	40	35.3	34.6	42		40	40.9 37.8	40.8	43		40	51.3	53.9	04	
42 44	49.2 48 50.0 49		1 ; 9 ,–13.6	42	35.6 36.8	35.0 36.0	42 40	-13.0	42 44	23.3 25.8	25.3 28.9	19 24	-12.2	42 44	50.9 50.4	52.0 50.8	02 00	-13.6
44 46 48	51.0 50	.0 1	3	44 46 48	36.8	36.0	40 38		44 46 48	23.8	26.8	21		44 46 48	53.6	54.8	06	
48 50	48.4 47 46.5 45		2	48 50	37.8 38.3	37·5 37·7	38		50	36.8 41.2	37.8 43.8	39 48		50	53.0 50.0	56.0 53.2	06 02	
52	51.3 50	.0 1	7 ¦	52	39.8	39.0	37 35 28		52 54 56	36.9	39.3	41		52	51.0	53.2	03	ı
54 56	52.8 51 51.6 50	8 1		54 56	44.3	43.0 42.3	30		54 56	44.2 48.2	46.0 50.1	52 58		54 56	52.0 52.0	54.9 53.9	05 04	
58	51.0 50	.5	7	58	42.0	41.5	32 28	7.0	58	40.I	41.2	45	TO #	58	54.7	56.8	08	74.6
00	51.4 50 52.1 51		7  -13.7 5	3 00	44.3 46.8	44.0 46.6	24	-13.0	5 00 02	34.8 45.8	37·3 47.8	37 54	-12.5	7 00 02	53.8 54.1	56.3 56.5	07 08	-14.0
04	51.8 50	.6 I		04	47.4	46.6	23		04 06	46.0	47.I	54		04	52.7 49.8	55.0	23 05	
06 08	49.6 49 46.6 46		0   4	00	46.0	45.8 46.8	25 23		00	38.9 34.2	39. I 35.8	42 36		06 08	49.2	51.2 50.0	22 60 22 59	
10	44.5 43	.7 2		10	41.7	41.5	32		10	39.9 30.8	40.I	44		10	52.8	54.2	23 05	
I2 I4	41.8 4I 39.0 37			I2 I4	45.9	45·7 47.0	25 23	-13.0	12 14		31.8 27.3	30 23	-12.7	12 14	49.6 47.8	51.1 48.7	22 60 22 56	-14.0
16	36.0 35	.5 4	I	16	46.4	46.4	. 24	_	16		50.3	22 59	-	16 18	52.9	53.2	23 04	
18 20	36.5 35 36.0 35			18 20	47.3 46.8	47·3 46.4	23		18 20		.3a 74.0	23 19		20	53.9 53.2	54.2 54.0	06	
22	34.5 33	5 4	4	22	46.6	46.1	24 26		22	64	. 1 <i>b</i>	23 21		22	50.0	51.8 52.8	10	1
24 26	34·3 33 36.7 36	0 4		24 26	45.2 42.8	44.8 42.1			24 26	43.3	.1 <i>b</i> 44.8	22 52 50		24 26	52.0 54.0	55.0	03 06	
28	37.7 37	0 3	3	26 28	42.8 45.6	45.2	30 26		28	44.0	47.3	52		28	50.9	51.8	02	
30	37.5 36 37.6 37	0 36 8 39 0 36 7 39	713.5	30 32	40.0 38.7	39.4 38.3	35 37	-13.0	30 32	29.7 19.6	32.9 22.0	30 13	-12.9	30 32	50.1 48.3	52.I 50.7	23 OI 22 59	-I4.
34	37.1 36	7 39	5	34	40	.8a	33		34	21.1	21.9	14		34	48.3 45.8	50.7 47.6	54	
36	37.3 36 38.5 37	8 39	2	34 36 <b>38</b>	43·5 43·5	43.5 43.2	29 29		34 36 38	42.7	43.0 56.0	22 48 23 08		34 36 38	35·3 45·0	36.2 45.9	37 52	
40	39.2 38	6 3	5	40	41.4	41.4	32		40	55.2 48.8	49.6	22 58		40	49.8 52.9	50.2	22 59	
42	39.4 38	5 30	-13.3	42	39.5	39·5 37·5	35 38	-13.0	42	49.1 46.8	49.9 47.9	58 55	-13.0	42 44	54.3	55.0	23 06 07	-14.2
30 32 34 36 38 40 42 44 46 48	39.4 38. 38.1 37	I 38	3 -3.3	44 46 48	39·5 37·5 46.1	45.6	25	J	42 44 46 48	43.9	46.0	51		44 46 48	55.9 56.9	56.6	09	
48	35.6 34	7 4	3	48 50	42.8 46.8	42.3 46.1	30 24		48 50	40.2	41.2 45.3	45 51		48 50	56.9 56.4	58.5 57.9	12 11	
50 52	33.7 33 32.7 32		5	52	48.4	48.3	21	Fre	52	44·3 48.8	49.0	22 58		52	56.9	57.9	II	
50 52 54 56 58	32.1 31.	6 47	<b>'</b>	54 56 58	46.0	45.6 41.6	25 31		50 52 54 56 58	50.2	50.6 48.8	23 00 22 57		52 54 56 58	59.3 59.8	60.1	15 15	
50	31.8 31. 37.0 36.	5 47		50	42.0 37.7	35.0	38		58	48.0 44.8	45.I	51	1	58	56.7	57.6	11	

Observer-W. J. P.

Correction to local mean time is + 55s.

Torsion head at 0h 00m read 340° and at 8h 25m read the same.

Observers—W. J. P. and R. R. T., who alternated 3h 58m to 4h 14m.

† Scale inverted for readings at 4h 00m.

### SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

#### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Mond	lay, Octob	er 19,	, 1903			Mag	gnet s	cale inv	erted	Tuese	lay, O	ctober	20, 1903	3			Magne	et scale	erect
Chr'r time	Scale readings Left Rig	d na	East lecli- ation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	cale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
ım	d o		0 ,	0	h m	đ	d	. ,	0	h m	d	d	,	٥	h m	đ	đ	. ,	0
00 02	58.1 47 42.1 38	1 2 8	22 25	-20.5	10 00 02	55·5 52·4	55.0 50.8	22 2I	-19.0	12 00 02	51.4 51.2	54.5 54.2	22 29 29	-15.0	14 00 02	50.4	52.0 53.0	22 27 28	-14.2
04	43.5 39		44	20.5	04.3	50.6	48.8	27 30		04	50.1		27		04	50.4	51.9	27 28	
об 08	39.4 38 48.4 38		47		06	47.9	47.1	33	ı	o6 o8	51.2	54.2	29		o6 o8	51.5	53.0		
10	49.6 38		40 39		08 10	51.3 47.2	50.0 45.1	28 36	1	10	52.2 51.5	54.9 53.8	30 29		10	51.0 50.8	51.8	27 27	
12	39.0 33		51		12	52.8	50.1	27	-0 -	12	51.4	53.4	29	0	12	51.2	52.0	27	-14.0
14 16	43.5 40 44.6 38	6	42	-20.5	14 16	49.7 49.3	48.0 46.2		-18.3	14 16	51.7 51.3	53.9 53.8	29 20	-14.8	14 16	51.1 51.2	52.I 52.0	27 27	
18	Lost		1		18	47.0	46.0	35		18	50.4	53.0	29 28		18	51.0	52.3	27 28	
20 22	57.6 49 38.6 28		24   22 55		20 22	60.8 56.8	59.7 54.0	13		20 22	51.2 51.0	53.8 53.7	29 28		20 22	51.5 51.2	52.2 52.1	28 27	
24	25.0 18	.8 2	3 14		24	49.2	48.0	32		24	51.2	53.5	28		24 26	51.2	51.8	27	
26 28	26.5 23 30.0 26		09		26 28	50.1	49.0 51.8	30		26 28	49.8 50.0	52.0 53.0	26 27		26 28	50.8	51.8 53.0	27	ı
30	33.0 30	8 2	2 58	-20.4	30	53·5 55.1	53.0	25	-18.3	30	50.8	53.0	27 28	-14.7	30	52.0	52.6	29 28	-13.5
32	32.0 28 37.6 37		3 00		32	52.3	51.3	27 28	!	32	51.0	53.7 53.8	28		32	52.2	52.8	29	
34 36 38	37.6 37 42.0 38	0 2	45		34 36	52.I 54.0	50.1 52.7	24		34 36	51.0 51.7	54.2	29 29		34 36 38	52.5 52.5	53·4 53·4	29 29	
38	44.I 35	.6	45		38	55. I	53.I	23		38	51.9	54.9	30		38	51.0	51.8	27 28	
40 42	47.2 31.	3	46 38		40 42	54.8 53.0	51.9 49.8	24 27		40 42	53.8 53.7	55·3 55·9	32 32		40 42	51.2 52.0	52.3 52.6	28	
44	45.6 36.	2	44	-20.3	44	52.0	49.2		-18.3	44 46	54.0	56.0	33	-14.4	44	51.5	52.2	28	-13.5
44 46 48	46.0 36. 49.2 37		43		44 46 48	53.8 53.9	50.4 51.1	26 26	1	48.7	53.8	55.7 53.8	32		44 46 48 50	51.8 52.6	52·3   53·3	28 29	
50	50.6 42	0	35		50	53.2	49.7	27 28		50	50.7	52.7	29 28		50	52.5	52.7	29	
52 54	49.2 42 51.0 45		36 33		52 54	52.8 52.7	49.0 49.2	28 28		52	51.2 53.1	53.2 55.1	28 31		52 54	51.6	52.0 52.2	28 28	
57	48.5 44		35		54 56	54.I	49.2	27		54 56	53.0	54.5	31		54 56	52.4	52.8	29	
58 00	50.7 47 43.0 40		31 42	-20.0	58	51.2	47.5	30 26	-18.2	58 13 00	51.0 51.1	53.0 52.9	28 28	-14.3	58 15 00	52.6 53.5	52.8 53.6	29 30	-13.7
02	43.0 40 48.5 45		34	20.0	11 00	54·7 54·3	50.4 51.0	25	10.2	02.3	52.9	54.9	31	-14.3	02	52.9	53.3	30	-13.7
04 06	45.0 42		39 26		n4 oti	55.3	51.2	24		04 06	53.9	55.7	32		04 06	52.6	53.0	29	
08	53.8 50 49.0 46		33		08	55.2 61.8	51.9 58.0	24 14		08	53.0 53.0	54.9 54.8	31 31		08	53.6 52.6	53.9 52.8	31 29	
10	61.0 59		13		10	61.1	57.9	15		10	53.0	54.7	31		10	55.8	56.1	34 28	
12 15	50.8 46 54.3 54		32 23		12 14	60.8 59.8	59.0 59.0	14 15	-18.2	12 14	52.5 52.1	54.2 53.8	30 29	-14.3	I2 I4	52.0 52.3	52.0 52.6		-13.8
15 16	55.2 54		22	-20.0	16	64.8	63.2	07		16	51.9	53.2	29 28		16	52.6	53.0	29	
18 20	54.3 53 34.6 34		23 54		18 20	бо.з 58.о	59.3 57.0	14 18		18 20	51.3 52.0	52.8 53.2	20		18 20	52.2 52.2	52.8 52.5	29 28	
22	33.6 32	.2	56	ļ	22	59.2	58.0	16		22	52.7	53.4	29	·	22	51.6	52.0	≥ 28	
24 26	45.6 43 51.0 45	4	38 33		24 26	59·4 51.7	57·7 50.6	16 28		24 26	52.4 $52.2$	53·4 53·2	29 29		24 26	51.4 51.0	51.8 51.4	27 27	
28	57.6 53	. I	21	1	28	59.4 51.7 56.8	55.0	20		28	53.0	54.0	30		28	51.0	51.4	27	!
30 32	48.4 44 48.6 45	8	35 34	-20.0	30 32	55.1 62.7	54. I	22 II	-18.3	30 32	52.6 52.2	53.8 53.5	30 29	-14.3	30 32	51.1 50.8	51.5 51.3	27 26	-13.9
34	50.5 46	.8	32		34	59. 56.0	1b	15		34	51.3	52.3 52.8	28		34	51.3	51.9	27	
34 36 38	58.0 54	7	20 18		36 -38	56.0	55.1	21		36 38	51.4 51.2	52.8 52.3	28 28		34 36 38	51.3 50.8	51.6	27 26	
40	59.1 55 55.2 52	6	23		40	54.8 61.0	53.0 60.1	23 22 I3		40	51.5	52.7	28		40	50.0	51.3 51.5	27	
42	54.9 52		24	TO 5	42	71.7	69.0	22 I3 2I 58	-18.0	42	51.5 52.8	54.1	30	T.4.0	42	51.1	51.7	27	
44 46	57.9 54 57.3 57	0	20 18	-19.7	44 46	66.0 58.0	63.1 56.2	22 07 18	-10.0	44 46.2	51.9 51.5	53.I 52.8	29 28	-14.3	44 46 48	51.1 51.9	51.7 52.4	27 28 28	-13.9
48	61.7 60	3	12		48	54.2	53.2	24		48	51.7	53.9	29		48	52.1	52.5	28	
50 52	58.2 56 58.1 55		18		50 52	54 4 57 7	53.9 56.2	23 19		50 52.4	51.9 51.2	54.0 53.8	29 29		50 52	51.9 52.3	52.3 $52.7$	28 28	
54	58.2 56	7	18		54	57.7 58.1	57.6	17		54	50.9	53.0	28		54 56	52.3	52.7	29	
40 42 44 46 48 50 52 54 56 58	57.3 56 58.0 56		19		56 58	58.7 60.3	57.6 59.2	17 14		56 58	50.2 49.8	52.7 52.0	27 26		56 58	51.9 51.6	52.4 52.2	28 28	
Ç	30.0 30		10		12 00	бі.9	60.5	12	-18.a	50	79.0	٠,٠٠	20		16 00	52.3	52.9	29	-14.0

Correction to local mean time is + 1m 15s.

Torsion head at 8h oom read 339° and at 12h 30m read the same. Observers—W. J. P. and R. R. T., who alternated from 9h 46m to 10h 00m.

Correction to local mean time is + 1m 37s.

Torsion head at 11h 30m read 339° and at 16h 15m read the same.

Observers—R. R. T. and W. J. P., who alternated from 14h 10m to 14h 20m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Chr'r time	Scale readings Left Rig	natio	- Temp	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Tem C.
0 m 0 00 02 04	d (51.2 48 50.0 48 50.5 48	6 22 3 0 3 3 3	4 -16.2 5	h m 2 00 02 04	49.0 48.9	d 48.0 49.0 48.9	22 37 36 36	-15.5	h m 4 00 02 04	d d 52.0 50.8 52.1 50.2 51.2 50.2	° , 22 32 32 33	° -14.2	h m 6 00 02 04	d d 49.0 48.0 49.0 48.0 48.8 47.8	° , 22 36 36 37	-12.0
06 08 10 12 14	50.2 48 50.4 48 49.8 47 49.0 47 49.3 47	2 3 5 3 1 3 3 3	5 7 7 –16.2	06 08 10 12 14	49.4 49.0 47.8 48.0	49.6 49.3 48.8 47.8 48.0	35 35 36 37 37	-15.3	06 08 10 12 14	50.3 49.2 48.5 47.8 47.7 47.1 47.2 46.3 48.0 47.0	34 37 38 39 38 38	-13.8	06 08 10 12 14	48.8 47.8 49.1 48.2 49.3 48.3 49.2 48.2 48.8 47.5	37 36 36 36 37	-11.8
16 18 20.3 22 24	50.0 48 50.6 49	6 3 3 3	4	16 18 20 22 24 26	49.2 47.8 46.2 45.8	48.0 49.0 47.5 46.0 45.6	37 35 38 40 41		16 18 20 22 24 26	48.6 46.4 48.8 46.8 48.8 47.0 48.9 47.1 48.2 47.2	38 37 37 37 38 38		16 18 20 22 24 26	48.2 47.5 47.3 46.8 46.8 46.5 47.8 47.2 48.0 47.5	37 39 39 38 38	
26 28 30 32 34	51.3 49 52.6 51 53.1 51 53.6 52 53.1 52	3 3 3 2 0 3	0	26 28 30 32 34 36	45.6 46.0 45.4 46.6	45.4 45.6 45.8 45.1 46.2	41 41 41 42 40	-15.2	28 30 32.3	48.3 47.0 48.9 47.3 48.8 47.1 48.7 47.0 48.0 46.5	38 37 37 37 38 38 38	-13.4	28 30 32	48.0 47.7 48.4 48.0 48.8 48.0 48.7 48.2 48.7 48.5 49.1 48.8	37 37 36	-11.6
36 38 40 42 44 46 48	52.2 51 52.4 51 53.0 52 52.6 51 52.6 51 52.6 51	2 3 0 3 6 3 8 3	1 0 1 1 –16.0	36 38 40 42 44 46 48	46.7 47.2 47.2 47.3	46.4 46.3 47.0 47.0 47.2 47.2	39 40 39 39 38 38	-15.1	34 36 38 40 42 44 46	48.2 46.8 48.2 47.0 48.8 47.1 49.7 48.3 51.2 49.8 50.8 49.7	37 36 33	-13.0	34 36 38 40 42 44 46	49.1 48.8 49.1 48.8 48.8 48.1 48.2 48.0 48.0 47.8 48.2 47.7	36 36 36 36 37 37	-11.5
48 50 52 54 56 58	52.2 51 52.6 51 52.5 48 51.2 49 51.1 49	2 3 6 3 0 3 3 3 4 3	1 1 4 4	48 50 52 54 56 58	47.5 47.6 48.0 52.8 47.8	47.3 47.4 47.8 52.4 47.4	38 38 38 37 30 38		44 46 48 50 52 54 56	47.9 46.3 47.5 46.6 48.6 47.6 48.9 47.9 48.0 46.9	34 38 39 37 36 38		44 46 48 50 52 54 56 58	48.0 47.7 47.8 47.2 48.1 48.0 49.0 48.2 48.9 47.9	37 38 37 36 36	
00 03 04 06	51.2 48 51.2 49 50.9 49 50.8 49 50.6 49	6 3 4 3 4 3 3 3	3	3 00 02 04 06	47.4 46.5 46.0 45.6	47.9 47.2 46.3 45.6 45.2	37 38 40 41 41	-15.0	58 5 00 02 04 06	47.8 47.0 48.6 47.9 48.2 48.1 47.2 47.2 47.0 46.8	38 37 37 38 39	12.9	7 00 02 04 06	49.8 47.8 52.8 47.2 51.8 48.2 51.3 47.9 51.2 48.0	34 35 35	-11.
08 10 12 14 16 18	50.4 49. 50.3 49. 49.8 48. 49.4 48. 49.1 48. 49.3 48.	0 6 3 4 3 3 3 3 3	-15.6	08 10 12 14 16 18	47.4 48.2 49.3 50.1	45.7 46.8 47.8 48.8 49.9 50.4	40 39 37 36 34 33	-14.9	08 10 12 14 16 18	47.0 47.0 48.2 48.0 49.7 49.1 50.0 49.1 49.6 49.2 49.1 49.0	39 37 35 35 36 36	-12.8	08 10 12 14 16	51.1 49.0 51.0 48.0 50.2 46.1 50.1 46.2 50.2 46.6 49.0 45.6	34 35 37 37 36 38	-10.9
20 22 24	50.0 49. 50.2 49. 50.6 49. 50.6 49. 51.0 50.	3.3 3.3 5 3.4 8 3.4	5   5   6	20 22 24 26 28	51.4 52.3 52.5 53.0	51.2 52.1 52.3 53.0 52.2	32 31 30 29 30		20 22 24 26 28	49.2 48.4 48.8 47.8 49.7 48.2 49.2 47.9 49.2 48.0	36 37 36 36 36		20 22 24 26 28 30	50.1 46.0 50.2 46.1 40.0 45.2	37 37 38	
26 28 30 32 34 36 38	51.0 50. 50.6 50. 50.2 49. 50.0 49. 50.0 49.	33 34 35 36 37 37 38		30 32 34 36 38	51.6 50.6 49.6 49.6 50.0	51.3 50.4 49.6 49.6 49.8	32 33 35 35 34	-14.0	30 32 34 36 38	49.0 47.2 49.0 48.0 49.0 48.0	37 36 36 36	-12.6	32 34 36 38	48.8 46.2 49.7 47.8 48.8 46.5 48.8 47.0 49.8 48.8 49.1 48.0 49.8 47.5	38 36 38 37 35 36	-10.8
40	50.3 49. 50.7 50. 50.9 50. 50.8 50. 50.8 50.	7 32 1 33 5 33 5 33 5 33	-15.5	40 42 44 46 48	49.6 4 48.3 4 47.1 4 47.0 4 46.2 4	49.4 48.0 46.8 46.6 46.0	35 37 39 39 40	-14.5	40 42 44 46 48	48.3 47.0 48.0 46.8 48.0 46.9 47.7 46.7 47.8 46.9	37 38 38 38 38 38 36	-12.2	40 42	49.3 47.3 50.0 48.1 48.8 46.4 49.9 47.0 49.5 46.9	36 37 36 38 36 36 36 36 36 38 38	-1o.8
42 44 46 48 50 52 54 56 58	50.3 50.49.3 49.3 48.9 48.4 48.3 48.3	34 35 36 36 36		50 52 54 56 58	48.0 4 48.8 4	46.8 47.7 48.3 49.3 50.8	39 37 36 35 33		50 52 54 56 58	48.9 48.1 49.1 48.7 49.9 49.2 49.8 49.0 49.2 48.2	36 36 35 35 36	1	44 46 48 50 52 54 56 58	50.0 47.1 50.0 47.1 50.1 47.0 49.0 46.5 49.0 46.4	36 36 38 38	:

Observers—W. J. P. and R. R. T. alternated from 3h 54m to 4h 08m. Observers—R. R. T. and R. W. P. alternated from 7h 52m to 8h 10m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale reading Left Ri	gs	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
02 04	d d 49.3 46.2 49.0 45.9 50.0 47.7	38 36	-10.8	h m 10 00 02 04	d 51.2 50.1 48.8	d 50.2 49.8 48.0	22 33 34 36	• -II.2	h m 12 00 02 04	51.6 50 50.9 49 51.3 50	d 0.7 0.5	22 32 34 33	• -II.I	h m 14 00 02 04	d 53.1 53.6 53.4	d 51.0 51.4 51.0	22 31 30 31	-I2 C
06 08 10 12 14 16	49.0 47.2 48.3 47.1 48.2 46.8 48.2 47.2 49.3 48.2 48.8 47.2	37 38 38 38 36	-10.6	06 08 10 12 14 16	47.2 47.1 48.6 49.6 49.9	46.8 46.3 47.5 48.5 48.8		-II.I	06 08 10 12 14 16	51.9 51 50.7 50 51.0 50 51.3 50	0.2	31 32 33 33	-11.0	06 08 10 12 14 16	53.6 55.3 55.3 55.3	51.1 53.7 52.7 52.7 53.0 52.8	30 27 28 28 27 28	
18 20 22 24 26	48.8 47.2 49.1 48.1 49.2 48.4 48.2 47.7 48.7 48.0 48.6 48.2	37 36 36 37 37 36	-	18 20 22 24 26	50.1 51.4 51.1 51.7 51.3	49.0 50.4 50.0 50.1	35 33 33 33 33		18 20 22 24 26	53.3 52 51.3 50 52.1 51 51.6 51	2.1	30 30 33 31 32		10 18 20 22 24 26	54.9 53.3 54.6 55.9 56.0	51.6 52.0 53.5 53.7		-11.9
28 30 32 34 36 38	48.7 48.0 48.2 48.1 49.2 48.7 48.2 48.1 48.8 48.6	37 37 36 37 36	_1 <b>0.</b> 6	28 30 32 34 36	51.3 50.6 50.7 50.5 50.2 50.1	50.3 49.9 49.6 49.0 48.7 48.8	33 34 34 34 35 35	-11.1	28 30 32 34 36 38	51.8 51 51.6 51 52.6 51 53.9 53	0.7 1.5 1.0 1.8 3.3	32 31 32 31 28 28	-11.0	28 30 32 34 36 38	54.9 54.1 54.7 54.8 55.0 55.4	53.3 51.6 53.0 52.1 53.0 52.6	30 28 29 28 28	-11.6
38 40 42 44 46 48	49.0 48.7 49.7 48.7 50.4 49.7 50.0 49.7 49.2 48.1 48.7 48.1	36 35 34 34	-10.1	38 40 42 44 46 48	50.8 49.9 51.6 51.6 50.1 50.7	48.2 48.4 50.0 50.3 49.2 49.1	35 35 33	-11.0	38 40 42 44 46 48	53.5 52 52.6 52 52.7 52 52.4 51 52.2 50	2.8	29 30 30 31 32 31	-11.1	38 40 42 44 46 48	55.5 55.5 55.7 56.6 55.6	53.6 53.3 54.3 54.6 55.0 54.7	27 27 26 25 26 26	-11.1
50 52 54 56 58 00	49.2 48.8 49.0 48.1 48.7 47.8 49.3 48.0 50.1 49.8 49.2 48.7	36 36 37 36 34 36	-10.3	50 52 54 56 58	50.8 51.1 52.0 51.1 51.6 50.9	49.9 50.1 50.9 49.9 50.4	34 33 32 33 32	-11.1	50 52 54 56 58	52.5 51 52.7 51 51.4 50 51.3 50 52.7 51	1.1 1.5 0.3 0.3	31 33 33 33		50 52 54 56 58 15 00	55.9 54.0 53.3 53.6 54.3 54.6	54.6 53.0 52.7 53.0 53.8 54.0	26 28 29 29 28 27	-10.8
02 04 06 08 10	49.6 48.2 50.0 48.0 51.2 49.0 52.5 50.5 51.1 49.8	36 36 34 32 33	:	02 04 06 08 10	50.9 51.1 50.3 51.2 50.8 51.8	49.9 49.9 48.4 50.3 50.2 50.9	33 33 35 33 33 32		13 00 02 04 06 08 10	53.7 52 53.3 51 53.4 52 53.8 53	2.7 2.9 1.3   2.7 3.0	29 29 30 29 29	-11.5	02 04 06.3 08 10	55.5 56.0 54.6 53.5 53.1	54.6 55.3 54.1 53.0 52.6	26 25 27 29 30	-10.0
12 14 16 18 20 22	50.0 48.2 51.0 49.7 50.2 47.6 50.9 48.7 50.9 48.9 48.9 47.1	35 34 36 34 34	-11.4	12 14 16 18 20 22	50.5 50.7 51.0 52.0 51.6 51.1	50.0 49.8 50.8 51.3 51.1	34 34 32 32 32	-10.9	12 14 16 18 20	52.3 51 51.4 50 51.8 50 52.4 51	2.4 1.4 0.4 0.5	29 31 32 32 31	-11.6	12 14 16 18 20	53·3 53·3 54.0 55·5 55.0	52.9 52.7 53.4 55.0 54.4	29 29 29 26 27	-11.C
24 26 28 30 32	48.8 47.1 46.9 45.3 48.8 46.6 48.7 46.7 47.5 46.6	37 37 40 38 38 39	-11.3	24 26 28 30 32	50.5 50.8 50.8 51.9 51.0	50.5 49.7 50.2 50.1 50.9 50.1	33 34 33 33 32 33	-10.9	22 24 26 28 30 32	52.3 51 53.0 52 53.2 52 52.5 51 53.6 52	1.4 1.7 2.2 2.3 1.8	31 30 30 31 29	-12.0	22 24 26 28 30 32	53.5 53.3 53.3 53.3 55.0 54.1	53.0 53.0 53.0 54.4 53.6	29 30 29 28 27 28	-11.0
34 36 38 40 42	46.2 45.8 46.1 45.7 46.6 45.7 46.2 45.2 49.8 48.5 50.4 49.8	40 40 40 41 35 34 38	-11.2	34 36 38 40 42	51.4 52.0 50.5 51.7 50.7 51.0	49.9 50.2 49.1 49.6 49.0	33 32 34 33 34 34	-10.9	34 36 38 40 42	52.8 52 53.3 52 52.5 52 53.5 53	2.7 2.2 2.7 2.0 3.3 2.0	29 30 29 31 29 31	I2 O	34 36 38 40 42	53.6 53.4 53.7 54.2 54.2	53.0 53.3 53.8 54.0	29 29 28 28 28 28	-11.0
44 46 48 50 52 54 56 58	47.9 46.8 48.7 48.0 50.2 49.4 52.0 51.1 52.0 51.3 51.7 50.8	38 37 34 32 31 32	,	44 46 48 50 52 54 56 58	52.0 51.2 50.1 50.8 52.6 52.2	50.3 49.5 48.6 49.5 50.5 50.8	32 34 35 34 32 32		44 46 48 50 52 54 56	52.3 51 52.2 51 53.5 53 54.8 53 54.3 53	1.9 1.6 3.0 3.0 3.5	31 31 29 28 28	-12.0	44 46 48 50 52 54 56 58	53.9 54.4 54.3 54.0 55.2 54.3 54.1	53.5 53.9 54.1 53.2 54.3 53.7 52.9	28 27 28 27 28 28 28	

Observer-R. W. P.

Observers—R. W. P. and W. J. P. alternated 12h 02m to 12h 22m. W. J. P. and R. R. T. alternated 15h 50m to 16h 06m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

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Chr'r time	Sca readi	ings	East decli- nation		Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Tem C.
h m	d	đ	0 ,	•	h m	d	đ	. ,	0	h m	d d	0 /	0	h m	d	d	. ,	
6 00	54.0 53.2	53.0 52.3	22 28 30	-11.0	18 00	54.I 54.I	52.I 52.0	22 29 29	-9.7	20 00 02	58.8 55.2 58.3 55.0	22 23 24	-10.4	22 00 02	52.4 51.0	40.3 43.2	22 40 38	-9.9
04	53.3	52.7	29		04	53.8	51.9	30		04	57.8 55.0	24		04	53.0	44.9	36	
o6 o8	53.2 53.7	52.I 52.2	30 29		o6 o8	53.8 53.7	52.0 52.2	29 29		06 08	58.1 54.0 57.8 53.8	24 25		o6 o8	55.0 53.0	45.6 44.0	34 36	
10	53. I	52.2	30	!	10	54.0	52.0	29		10	56.9 53.3	26		10	53.9	40.0	39	
12 14	53.5 53.0	52.5 52.0	29 30	-10.8	12 14	53.8 53.2	52.2 51.9	29 30	-9.8	12 14	57.4 54.3 60.9 57.9	25 19	-10.4	I2 I4	61.0	4I.2 4I.2	32 42	<b>-9</b> .9
16	52.8	52.2	30		16	52.8	52.0	30	9.0	16 18	58.0 55.0	24		14 16 18	71.2	51.2	42 16	
18 20	53.0 52.7	53.0 52.1	29 30		18 20	52.5 52.8	51.8 51.8	31 30		20	48.8 45.0 39.4 37.8	22 52		20	56.1 52.3	55.8 48.4	25 34	
22	52.8	52.1	30		22	52.8	51.8	30		22	35.0 12.0 38.5 36.8	23 16		22	50.9	47.6	35	
24 26	53·3 53.6	52.6 52.9	29 29	1	24 26	53.2 54.0	52.I 53.0	30 28		24 26	50.0 48.9	22 53 35		24 26	53.2 55.2	47 · 4 47 · I	34 32	
28	53.0	52.2	30		28	54.6	53.6	28		28	61.0 56.8 65.1 59.8	20 15	-10.6	28	60.3 63.3	45.9	29 28 28	-9.8
30 32	54.7 54.9	53.9 54.1	27 27	-11.0	30 32	54.6 54.4	53.6 53.4	28 28	-9.9	30 32	66.5 59.9	13 18	-10.0	30 32	61.5	45.0 45.5	28	-y.c
34 36 38	55. I	54·3 53.8	27	i	34 36	54.5	53.5	28 28		34 36 38	63.3 57.1 56.6 53.0	18 26		34 36 38	55.2 55.2	53·5 54.0	27 27	
38	54.8 55.9	54.6	27 26	1	38 38	54·4 54·5	53·3 53.6	28		38	61.3 54.0	22		38	52.6	50.8	31	
40	55.5 56.3	54.2	26 26	,	40	54·5 54.8	53.7	28		40 42	61.4 54.2 61.0 54.0	22 22		40 42	52.1 52.6	49.2	33 32	
42 44 46	57.8	54.1 55.6		-10.8	42 44 46	55.0	54.2 54.0	27 27	-IO.I	44	60.4 52.6	24	-10.6	44	52.8	49.5	32	-9.5
46 48	56.9 56.2	54.1 54.8	25		46 48	54·7 54·5	53.8	27 28		44 46 48	58.4 51.7 58.8 52.0	26 26		44 46 48	52.6 51.2	48.9 47.8	33 35	
50	56.0	53.2	25 27		50 52	54.7	53.2 53.2	28		50 52	57.2 51.5	27 26		50	51.0	48. I	35	
52	57·3 56.4	54.3 54.0	25 26		52	54.5 54.2	53·5 53·2	28 28		52 54	58.6 52.3 58.6 50.1	26 27		52 54	51.1 51.9	48.6 49.6	34 33	
54 56	55.8	54.0	26	į.	54 56 58	54.2	53.6	28		54 56 58	59.0 51.0	27 26		54 56	52.9	50.3	31	
58 7 00	55·3 55·9	54.0 54.0	27 26	-10.0	58 19 00	54.1 54.0	53. I 53. I	28 28	-10.2	58 21 00	56.2 54.4 57.5 55.0	26 24	-10.5	58 23 00	54.0 56.2	51.1 53.0	30 27	-9.6
02	55.0	54·5 53.8	27 26	10.0	02	54.0	53.0	28	-0,-	02	56.8 55.1	25 26		02	53.5	50.6	31	
04 06	55.8 55.9	53.8		!	04 06	53.8 53.8	53.0 52.0	29 29		04 06	56.7 54.2 56.2 54.6	26 26		04 06	53.I 53.2	50.5 51.1	31 31	
08	56.0	53.7	27 26	11	08	53.6	52.9	20		08	57.5 54.7	24 26		08 10	48.8	46.3 45.6	31 38 38	
10 12	55.6 55.3	53.I 53.I	27 27	i	10 12	54.0 53.5	53.1 52.8	28 29		10 12	53.7 52.3	20		12	49.9 50.9	47.6	35	
14	55.0	53.2	27 28 28	-9.8	14	53.9	52.9	29	-10.5	14 16	55.3 52.8	28 27	-10.3	14 16	55.0 47.7	49.4 40.9	31 43	-9.7
18 18	55.I 55.3	52.0 51.9	28		18 18	53.8 54.1	53.0 53.2	29 28 28		18	55.8 53.2 55.4 52.3	28	i	18	45.8	34.8	22 49	
20	55.0	52.0	28	1	20	54.4	53.8	28 28		20 22	55.1 51.1 56.0 51.7	29 28		20 22	25.8 34·3	18.9 25.8	23 17 23 05	
22 24		52.1 52.3	28 28	4	22 24	54.2 54.2	53.8 53.8	28		24 26	54.8 50.4	30				34.7	22 50	
26	55.I	53.9	27	1	26 28	54. I	53.7	28 28		26 28	55.1 51.0 55.2 51.8	29 28		24 26 28	45.0 36.1	25.2 35.1	23 04 22 50	
28 30	54·5 54·4	53.0 53.1	28 28	-9.6	30	54.2 54.7	53.8 53.7	27 28		30	53.9 51.7	30	-10.0	30	43.9 30.8	20.2	23 12	-9.8
32	54 . I	51.5	30		32	54.7 54.6 54.6	53.2	28 28		32	55.I 52.0 54.7 5I.7	28 29		32	37⋅5 41.0	28.7 30.6	23 OI 22 56	
34 36 38		50.0 50.7	31 31	i'	34 36 38	54.8	53.I 53.I	28		34 36	54.3 51.9	29		34 36	34.4	31.7	23 01	
38	53·7	51.0	30	il	38	54.9	53.8	27 27		38	54.2 51.8 54.5 51.7	29 29		38 40	35. I 36. I	33.I 33.9	22 59 58	
40 42		51.5 51.4	30 30		40 42	55.I 55.0	54.I 54.2	27		40 42	53.7 50.7	30		42	45.5	43.9	42	
44	54.0	51.3	30	-9.3	44 46 48	55.1 55.8	54.2 54.0	27 26	-10.б	44 46	53.9 51.1 Overl'k'd	30	-IO. I	44 46 48	45.5 51.7 54.6 55.8 55.2 56.5	49.9 52.2	33 29	-9.8
48	54. I	52.2 52.2	29 29	j	48	57.I	55.9	24		48	51.0 50.0	33		48	55.8	53·3 53.8	27	
50	53.8	52.2	29		50	56.8	54.8	25		50 52	56.0 55.0 56.0 46.0	25 32		50 52	55.2 56.5	53.8 54.9	27 25	
52 54	54.I 54.5	52.3 52.6	29 28		52 54	55.9 56.1	53.2 54.1	27 26		54 54	52.0 42.0	39		54	57.I 56.4	52.8	25 26	
44 46 48 50 52 54 56 58	54.2	52.3	29		54 56 58	56.7	54.8	25		54 56 58	53.0 41.0 52.0 43.2	39 38		56 58	56.4 56.0	52.0 52.0	27 28	1
58	53.9	52.1	29		50	57.I	55.8	24		30	J=.0 4J.2	35		24 00	55.8	52.0	28	<b>-9</b> .

Observers—R. R. T. and R. W. P. alternated 19h 48m to 20h 02m. (W. J. P. 17h 24m to 18h 42m. F. L. 16h 54m to 17h 44m.)

Correction to local mean time is + 1m 54s.

Torsion head at oh oom read 339° and at the end read the same.

Observers—R. W. P. (F. L. 21h 50m to 22h 30m.)

## SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

#### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Thurs	sday, Octobe	r 22, 190	03			Magn	et scale	erect	Sund	ay, October	25, 1903			Mag	iet scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp C.
h m 6 00 02 04 06	d d 36.2 38.7 34.6 37.0 34.8 36.8	° , 23 40 38 38	+4.7	h m 18 00 02 04 06	d 32.8 31.2 30.1 26.8	d 33.1 31.9 31.0	° , 23 33 31 30	+1.9	h m 0 00 02 04	d d 52.5 52.6 51.0 51.6 52.0 52.0	30 31	° -10.7	h m 2 00 02 04	d d 47.9 48.2 47.9 48.1 47.8 48.0	25 25	-8.1
08 10 12 14 16 18 20	33.2 34.9 32.5 34.2 33.2 34.4 35.9 37.0 34.9 36.3 33.3 34.8 31.0 32.5 38.2 39.8 37.5 39.0	35 34 35 39 38 35 32 43 42	+4.4	08 10 12.2 14 16 18 20	26.0 25.2	28.2 27.7 27.2 27.5 28.1 26.8 24.6 24.7 25.0	25 24 23 23 24 22 19 19 20	+1.9	06 08 10 12 14 16 18 20 22	52.6 53.1 53.0 53.6 52.6 53.1 50.9 51.3 51.8 52.2 51.5 52.1 52.1 52.3 54.7 54.7 56.3 56.5	33 32 30 31 31 32 36	-10.б	06 08 10 12 14 16 18 20 22	48.6 48.7 49.0 49.2 50.3 50.5 50.7 51.0 51.6 51.7 52.9 53.1 49.3 49.6 54.8 55.3	27 29 29 30 31 33 27	-8.0
24 26 28 30.3 32.6 34 36.3 38	31.2 32.8 34.7 36.2 30.2 31.8 29.2 30.2 26.2 28.0 26.0 26.5 24.1 24.8 23.2 26.0	32 37 30 28 24 23 20 20	+3.8	24 26 28 30 32 34 36 38	23.9 24.3 22.8 21.6 21.6 21.6 21.0 21.5	25.1 25.8 23.9 23.3 23.4 23.2 22.5 22.8	20 21 18 17 17 17 16	+2.3	24 26 28 30 32 34 36 38	56.1 56.9 52.2 52.8 52.3 53.0 52.8 53.2 53.3 53.8 53.4 53.9 53.6 53.9 52.8 53.4	32 32 33	-10.3	24 26 28 30 32 34 36 38	55.3 55.6 55.6 56.2 56.2 56.6 56.4 56.8 56.2 56.6 55.2 55.6 54.6 54.8 54.0 54.3	37 38 38 38 36 36	-7.8
40 42 44 46 48.2 50	23.8 26.0 21.1 23.2	21 17 16 13 11 17 20	+2.0	40 42 44 46 48 50 52	23.2 23.3 23.2 23.1 25.1 26.2 25.2 24.0	24.4 24.5 24.2 24.1 25.8 28.0 26.0 24.8	19 19 19 19 22 24 22 20	+2.9	40 42 44 46 48 50	53.0 53.5 52.5 53.0 52.2 52.6 51.8 52.3 52.0 52.3 52.0 52.3 51.5 52.0	33 32 32 31 31 31 31	-10.1	40 42 44 46 48 50 54 56	54.3 54.6 54.6 54.8 54.8 55.2 55.6 55.8 55.2 55.4 55.8 56.2 56.6 57.1	35 36 36 37 36 38	<i>-</i> 7·5
54 56 58 7 00 02 04 06	28.2 30.8 30.9 33.2 33.1 35.0 35.0 37.0 35.3 37.7 36.3 38.2	23 28 32 35 38 39 40	+3.1	54 56 58 19 00 02 04	23.7 23.7 23.1 23.7 23.0 24.0	24.5 24.3 23.3 24.0 23.3 24.3	20 20 20 18 19 18	+2.6	54 56 58 1 00 02 04 06	50.9 51.2 50.6 51.0 50.0 50.7 49.6 50.0 49.8 50.2 50.0 50.4 50.0 51.1	30 29 29 28 28 28	-9.5	54 56 58 3 00 02 04 06	57.2 57.6 57.8 58.2 58.1 58.3 56.9 57.3 54.6 55.0 51.0 51.6	41 41 39 36 30	-7.2
08 10 12 14 16 18 20	36.2 38.1 35.4 37.0 35.2 36.8 34.0 35.0 31.8 32.0 31.8 32.7	40 39 39 38 36 35 32 32	+2.1	08 10 12 14 16 18 20	22.8 23.7 24.4 20.6 21.7 21.0 21.0	23.3 24.1 24.6 20.9 21.8 21.2 21.0 21.6	18 19 20 14 16 15 15	+1.9	08 10 12 14 16 18 20 22	51.3 51.8 51.4 51.9 51.6 51.8 51.3 51.6 51.0 51.3 51.0 51.3 51.3 51.8	30 31 31 30 30 30 30	-9.1	08 10 12 14 16 18	48.0 <i>b</i> 46.5 46.5 47.5 <i>a</i> 50.2 <i>a</i> 52.3 52.3 54.8 54.8 54.7 54.9	24 28 32 36 35 35	-7.1
24 26 28 30 32.5 34 36 38	32.4 32.7 33.2 33.8 34.2 34.8 33.8 34.2 35.0 36.0 36.9 37.2 35.6 36.8	33 34 36 35 38 40 39	+2.5	24 26 28 30 32 34 36	21.3 23.3 23.6 22.7 25.0 23.9 23.5	21.8 23.5 24.0 23.2 25.6 24.0 24.4	16 19 19 18 22 19	+0.6	24 26 28 30 32 34	51.3 51.6 50.8 51.3 51.0 51.5 50.8 51.3 50.8 51.3 50.7 51.1 50.3 50.8 50.9 50.3	30 30 30 30 30 30 29 28	-8.8	22 24 26 28 30 32 34 36 38	52.5 52.7 52.3 52.5 52.6 53.1 53.6 54.1 52.6 53.0 51.3 51.6 51.0 51.3 50.8 51.2	32 34 32 30 30	-6.9
38 40 44 46 48 50 54 56 58	20.4 31.0 30.3 31.6 32.8 34.1 32.3 33.2 33.0 34.0 34.0 35.1 35.7 36.0 34.9 35.2 37.2 37.7	29 30 34 33 34 36 38 37 40	+2.2	38 40 42 44 46 48 50 52	24.0 22.8 21.3 20.9 22.0 21.6 21.8 20.9 19.8	25.0 23.2 21.9 21.2 22.8 22.2 22.4 21.2 20.0	20 18 16 15 17 16 17	-0.0	38 40 42 44 46 48 50 52	50.6 51.0 51.0 51.3 51.2 51.5 51.3 51.6 50.6 51.0 50.9 51.1 50.9 51.1	29 30 30 30 29 30 30 28 28	-8.5	38 40 42 44 46 48 50 54 56	50.8 51.2 51.2 51.4 51.5 51.6 51.5 51.9 52.8 53.1 52.0 52.3 51.3 51.5 51.0 51.3	30 30 30 31 33 31 30 30	-6.6
56 58	37.2 37.7 34.3 34.9 33.8 34.2	36 35		54 56 58 20 00	19.2 20.1	20.0 20.5 21.9	13 14 16	-0.3	52 54 56 58	50.0 50.3 49.3 49.6 48.5 48.7	28 27 26		54 56 58	52.0 52.6 53.0 53.5 53.5 53.9	33	

Correction to local mean time is +2m 25s.

Torsion head at oh oom read 339° and at oh 30m read the same.

Observers—R. R. T. and W. J. P., who alternated 18h 18m to 18h 30m.

Observer-W. J. P

#### MAGNETIC OBSERVATIONS

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Sund	ay, Octob	er 2	5, 1903			Ma	gnet s	cale inv	erted	Mon	day, Octobe	r 26, 190	3		Magn	et scale	erect
Chr'r time	Scale reading Left Ri	gs	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Righ	nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp C.
h m 4 01 02	d 54.8 53 56.0 5	d 3.6 5.0	o , 22 32	-6.2	h m 6 00	d 56.1	d 55.3	22 30	° -4.8	h m 8 oo 02	d d 34.7 39.3 34.5 38.	23 27 26	° -9.0	h m 10 00	d d 53.0 55.0 54.8 56.0	22 44 46	-6.8
04 06 08 10	55.8 55 56.1 55 57.3 57 56.5 55	5.0 5.3 7.0 5.9	30 31 30 28 29 32		02 04 06 08 10	53.1 50.6 51.9 55.5 55.0 54.5	49.7 48.1 49.6 52.9 52.9 51.8	37 40 38 32 33 34		04 06 08 10	34.5 38. 35.5 40. 28.3 34. 32.8 36. 29.5 35. 26.7 31.	28 18 23 20		04 06 08 10	57.2 59.0 56.0 57.7 57.2 58.2 56.3 57.3 51.9 52.9	51 49 50 49 42	
14 16 18 20 22	51.8 5: 52.5 5: 55.8 5: 55.9 5	1.2 1.0 1.5 3.8 4.8	32 34 37 36 32 31	-6.0	14 16 18 20 22	53.0 47.9 51.0 55.9 51.4	49.2	34 36 44 39 32 39	-4.8	14 16 18 20 22	26.6 31.2 23.5 27.3 24.3 32.3 25.9 27.0 29.3b	3 09 3 13 0 10	-8.7	14 16 18 20 22	52.9 53.0 54.2 54.8 54.0 55.2 56.2 57.3 57.9 59.0	45 45 49 51	-6.5
24 26 28 30 32	54.0 52 51.7 50 50.9 49 48.8 42	2.8 2.0 0.1 9.6 7.7	34 34 38 39 42	-5.8	24 26 28 30 32	50.0 50.0 51.0 55.1 56.0	46.8 47.2 48.3 51.7 55.0	42 41 40 34 30	-4.8	24 26 28 30 32	22.5 23. 22.4 23. 22.0 23. 19.2 20. 17.6 19. 22.6 24.	3 05 3 04 3 23 00 2 22 58		24 26 28 30 32	60.0 61.1 58.1 59.1 57.2 58.8 56.1 57.2 55.0 57.0 55.0 57.2	52 51 48 48	-6.6
34 36 38 40 42	50.7 49 50.9 49 48.8 48 49.2 48	9.8 9.7 8.2 8.2	45 39 39 41 41 41	-5.5	34 36 38 40 42	54.7 55.1 53.8 55.0 55.7 56.8	53.0 53.9 52.8 54.0 54.5 55.2	33 32 34 32 31 30	-4.8	34 36 38 40 42	21.6 23. 21.5 23. 20.8 22. 25.0 25. 21.0 22.	04 04 03 08	-8.3	34 36 38 40 42	56.0 57.7 58.6 59.9 57.3 58.9 58.7 59.5 57.1 58.5	52 51 52	-6.6
44 46 48 50 52	47.5 45 47.8 46 49.0 47 49.2 47	5.7 6.0 7.9 7.6	44 44 42 42 42 38	-3.3	44 46 48 50 52	55.0 51.0 54.1 53.5	53.2 50.0 53.4 52.1		4.0	44 46 48 50 52	22.0 23. 20.2 20. 21.0 22. 10.8 31. 22.2 26.	05 01 2 03 02		44 46 48 50 52	57.2 57.9 55.7 57.4 45.8b 43.8a 53.8a	50	
54 56 58 5 00 02	54·3 51 54·7 51 54·5 51 55.0 51	9.2 1.1 1.9 1.8	35 34 34 34	-5.3	54 56 58 7 00 02 04	55.1 52.8 54.9 55.8 57.2 57.0	54.1 52.0 54.0 54.1 55.8 55.8	35 32 31 29 29	-4.8	54 56 58 9 00 02 04	16.9 20.1 18.9 22.1 17.4 20.1 18.8 20.1 19.2 20.1	22 58 22 3 01 22 59 23 00	-7.8	54 56 58 11 00 02 04	58.8 59.2 60.3 60.8 61.0 61.0 59.8 60.7 59.2 61.0	52 55 55 55 54	  -6.6
04 06 08 10	55.1 52 53.9 51 52.3 50 51.1 49	2.6 2.2 1.2 0.1 0.2	33 33 35 37 39 37	-5.0	06 08 10 12	55.7 50.2 53.5 55.0 57.2	55.3 49.2 52.2 54.0 56.0	30 40 35 32 29	-4.8	06 08 10 12	19.6 20. 20.2 20. 15.4 16. 15.8 18. 18.9 19.	00 23 01 22 54 56	-7.5	06 08 10 12 14	60.2 61.4 52.5 53.8 42.2 44.0 46.3 47.7 49.8 51.6	55 43 27 33	-6.6
14 16 18 20 22	51.1 49 49.7 48 49.0 47 48.0 46	7.2 5.0	39 41 42 44	-5.0	16 18 20.3 22	56.6 58.1 56.6 56.9	55.5 57.0 55.9 54.8	30 27 29 30 29	4.0	16 18 20 22 24	18.9 19. 10.9 11. 10.0 11. 10.2 12. 10.1 12.	59 47 6 45 6 46		16 18 20 22	54.1 57.1 56.2 59.2 52.4 55.0 50.9 54.4 51.8 54.8	47 50 44 42	
24 26 28 30 32	48.6 47 48.8 47 50.0 49 49.8 48	7.0	45 42 42 40 41	-4.9	24 26 28 30 32	57.6 57.2 55.3 52.0 58.1 55.8 57.8 54.8 58.0	55.9 54.9 53.8 51.2 56.1	30 32 37 28	-5.0	26 28 30 32	10.8 12. 9.6 11. 7.7 8. 9.5 11. 7.4 8.	47 3 45 42 45 45	-7. I	24 26 28 30 32	49.7 52.2 51.2 54.0 50.9 53.8 50.6 52.4 53.5 55.0	40 42 42 40	-6.5
34 36 38 40 42	50.7 49 52.5 50 51.9 50	5. I 9. 5 9. 7 9. 1	44 39 36 38 42 44		34 36 38 40 42	56. I	53.7 55.5 52.4 55.4 54.2	32 29 33 29 31		34 36 38 40 42	9.0 9.1 10.6 11.	43 46 3 44 44	-6.8	34 36 38 40 42	53.4 55.2 52.8 54.1 51.2 52.4 53.0 54.0	45 43 41 41 44	
30 32 34 33 34 38 40 42 44 48 50 52 54 58	48.2 46 52.2 50 53.8 51	0.2 0.8 1.3 0.3	44 37 35 38 38 39 38	-4.8	44 46 48 50 52	53.0 58.8 52.8 55.9 54.2	51.6 57.3 51.8 53.8 53.7 56.8	36 26 36 32 33 28	-5.0	42 44 46 48 50 52	8.2 10. 8.2 10. 9.0 10. 8.1 10.	3 43 43 5 44 5 43	-0.0	42 44 46 48 50 52 54 56 58	54·3 55·3 53.8 55·4 57.8 59·9 55·8 57·9	45 52 49 51	
54 56 58	51.6 49 51.8 49	8.6	39 38 33		54 56 58 8 00	57.0 58.9 58.8 51.8	56.8 58.7 58.2 50.8	28 25 26 37	-5.1	52 54 56* 58	8.9 9. 47.2 55. 47.2 55.	9 44 3 40 2 40		54 56 58 12 00	59.1 61.3 58.9 61.9 56.3 59.8 55.0 57.8	54 51	-6.4

Correction to local mean time is + 2m 25s. Torsion head at oh oom read 339° and at the end read the same. Observers—W. J. P. and R. R. T., who alternated 4h 04m to 4h 16m. Correction to local mean time is + 1m 51s. 90° torsion = 25.'1. Torsion head at 8h 00m read 336° and at 12h 53m read 339°. Observers—W. J. P. and R. R. T., who alternated 8h 40m to 8h 52m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

- uest	lay, Oct	ober :	27, 1903			Ma	gnet so	cale inv	Derred	Wedi	nesday, Octo	рег 28, І	yo3 			wagne	t scale	етест
hr'r me	Scale reading	gs	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
m	d	đ	0 /	•	h m	đ	d	0 /		h m	d d	. ,	0	h m	ď	d	. ,	•
00 02		5.3 50.7	22 32 25	-10.8	14 00 02	46.8 49.9	44.0 47.0	22 34 30	-9.2	0 00	37.3 39.0 37.2 38.7	22 30 20	-9.0	2 00	52.6 57.2	54.0 59.1	22 53 23 01	-6.0
04	54.1 5	2.1	22		04	44.I	41.0	39		04	37.3 38.7	29	· ·	04	55.8 56.0	57.8	22 59	
o6 o8		19.6 16.8	25 30		06 08	47·3 47·9	44·3 45.1	34 32		06 08	37.3 38.7 37.4 38.7	29 29		об <b>o</b> 8	56.8	57.8 57.8	22 59 23 00	
10		7.8	29		10	46.0	44.0	35		10	36.8 37.8	28		10	55.6	57.2	22 58	
12 14		39.I 40.0	44 42	-10.3	12 14	49.0 45.0	46.4 42.5	31 37	-8.9	12 14	36.6 37.5 36.5 37.5	28 28	-8.5	12 14	55.0 53.7	56.2 54.8	57	-5.6
16		12.7	37	10.5	16	46.0	43.8	35		16	35.0 36.8	27	0.5	16	54.2	55.6	55 56	J.,
18 20		41.0	40		18 20	46.3 45.6	44.0 43.6	35 36		18	35.8 36.6 38.0 39.0	26		18 20	52.1 52.4	53.6 53.8	53	
22	47.8	14.9 17.7	35 31		22	47.2	45.2	33		22	38.0 39.0 38.6 40.0	31		22	51.3	52.5	53 51	
24 26	46.9 4 51.2 5	46.1 50.8	32		24 26	49.3	47·5 46.3	30 32		24 26	39.0 39.6 39.6 41.6	31	ł	24 26	50.3	51.3 51.3	50 50	
28		51.9	25 24		28	47.7 45.6	44.I	35 36		28	39.8 40.8	33		28	51.0	52.6	51	
30 32		51.0 50.2	24	-10.0	30 32	45.0 44.0	43·5 42.8	36 37		30 32	4I.0 4I.7 4I.3 42.0	35	-8.o	30 32	51.0	51.5 50.2	50 48	-5.5
34	51.8	49.6	24 26		34	45.6	44.7	35		34	41.3 42.0 41.9 42.3	35 36		34	49.5 47.8	48.5	45	
34 36 38		49.6 48.1	27		34 36 38	46.0	45.0	34 36	-8.5	34 36 38	42.2 42.6			34 36 38	47·4 47.0	48.0	45	
30 40		50.9	29 24		40	45.2 43.8	44.2 42.8	38		40	41.4 42.0 39.3 39.9	35 32	1	40	44.3	47.2   44.6	44 39 38	
42		52.1	22	10.0	42	42.3	41.3	40	-8.5	42	39.3 39.7	32	-7.5	42	43.0	43.4	38	-5.2
44 46 48		53.2 56.3 <sub>1</sub>	20 16	-10.0	44 46 48	42.6 42.5	41.3	40 40	-0.5	42 44 46 48	39·3 39·7 40.7 41.1	32		44 46 48 50	42.3	42.9 44.0	37 38	
48	56.I	54.9	18		48	42.3	41.3	40			40.5 40.9	34		48	45.0	45.0	40	
50 52		53.9 51.1	20 24	1	50 52	43.0	42.3 41.5	39 40		50 52 54 56 58	41.2 41.7 41.6 41.9	35 35		52	45.3 46.3	45.5	41 42	
54 56		51.9	23		54 56 58	42.0	41.0	40		54	41.5 41.9	35		54 56 58	46.2	46.3	42	
58	58.4	56.1 58.2	17 14		58	41.2	40.2 38.8	42 44		58	41.5 41.9			58	45·3 47·2	45.6 47.7	4I 22 44	
00	62.8	60.5	09	-9.7	15 00	39.7 40.8	38.7	44	-8.3	1 00	41.1 41.3	34	-7.0	3.00	64.0	64.0	23 10	-5.0
02 04		63.5 60.2	05 10		02 04	38.7	40.3 38.5	42 45		02 04	41.3 41.5			02 04	61.1	61.7	06	-5.
06		63.1	06		06 08	36.2		50		06	40.6 40.8	34		o6 o8	59.0	60.1 56.0	23 03 22 58	
08 10		63.2 69.7	22 06 21 55		10	33.2 35.3	33.1 34.6	54 51		08	40.0 40.0		1	10	56.0 55.0	55.0	56	
12	65.9	62.8	22 04		12	39.9	39.3	43	-8.2	12	39.1 39.3	31		12	53.8	54.0	54	_
14 16		54·9 49·7	16 24	-9.6	14	42.6		39 41	-0.2	14 16	39.5 39.8 38.5 38.9		-6.8	14 16	50.6	52.0 52.0		-5.
18	53.8	49.0	25 38		18	46.0	45.3	34		18	38.9 39.3	31	1	18	54.3	54.8	55 56	
20 22	45.3	40.9 44.8	38		20 22	48.0 44.6		31 36		20 22	38.9 39.3			20	54.5	55.2 57.3	50 50	
24	54.8	50.7	23		24	48.3	47.8	30		24	41.7 41.9	35		24	55.1	55.5	56	1
26 28	57.8 57.2	53.9	: 18 : 20		26 28	45.6 46.8	45.1 46.3	34		26 28	42.0 42.2			26 28	53.6	54·3 55.0	54 56	
30	54.7	53.9 51.8 48.1	25	-9.4	, 30	48.6	48.2	30	-8. ı	30	42.0 42.1	36	-6.5	30	53.6 54.5 54.6	55.I	56 56	-5.
32	57.0	50.7 50.2	21		32	47.4	47.0	31 32		32	42.4 42.6			32 34	54.0 52.6	54·3 53.0	55 53	
34 36 38	57.3	51.2	20	1	36 38	47.3 48.3 46.0 46.8	47.0 46.5 47.8	30		34 36	42.7 43.3 41.8 42.2	: 36	1	36	51.6	51.9	51	
38	59.7 60.8	53.4 56.1 56.8	17		38	46.0	45·5 46·3	34 32		36 38	41.5 41.8	35		38 40	51.5 51.0	51.7 51.9	51 50	
40 42	60.6	56.8	14 13	i	42	47.3 48.2	46.7	32		40 42	40.5 40.9	34	1	42	51.3	51.9	51	
44	58.3	54.6	13 17 18	-9.3	44	48.2	48.2			44 46	40.9 41.3	34	б.о	44 46	55.0	55-5	51 56	-4.
44 46 48	55.7	54.I 50.7	22		44 46 48 50	47 · 3 47 · 5	46.7 47.3	32		48	41.2 41.4 41.6 41.6	35		48	47.1 56.6	56.8	44 59	
50	51.1	47.2	22 28		50	47 · 3 47 · 7	47.3	31		50	42.2 42.2	:\ 36		50.5	53.0 53.3	55.8	55	1
52 54	55.I	45.I 51.5	31		52 54	47.7	47.3 47.1	31		52	43.2 43.8 44.1 44.2			52 54	53·3 55.1	53·3 55·3	53 56	
52 54 56 58	51.2	46.8	29		54 56	47·3 48.2	47.I 48.0	30		50 52 54 56 58	44.7 44.9			54 56 58	55.1 53.2 52.8	55·3 53.8	59 55 53 56 54 53	
58	49.0	45.0	32		16 00	47.1	47.0 46.9			58	47.6 48.0	45	ļ	58	52.8	52.8	53	1

Correction to local mean time is + 1m 54s.

Torsion head at 10h 50m read 339° and at the end read the same.

Observers—R. R. T. and W. J. P., who alternated 13h 52m to 14h обт.

Observer-W. J. P.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

vv edi	nesday,	Octob	er 28, 1	903			Magn	et scale	erect	Wed	nesday	, Octob	er 28, 1	903			Magn	et scale	erect
hr'r   ime	Sca readi Left	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	cale lings Right	East decli- nation	Temp. C.	Chr'r time	read	cale lings Right	East decli- nation	
m	d	đ	0 ,	•	h m	đ	d	. ,	•	h m	d	ď	۰,	0	h m	d	ď	, ,	
00 02	53.2 54.8	53·3 55·2	22 53 56	-4.8	6 00 02	65.9 57.0	66.2 57.4	23 I3 23 00	-4.0	8 00	47.1 45.2	48.1 46.4	22 44 42	-3.3	IO 00 02	37.8 38.9	38.0 39.1	22 29 31	-2.5
04 06	56.6 56.1	57.1 56.6	59 58	1	04 06	50.9 55.8	51.8 56.2	22 50 22 58		04 06	48.2 44.2	49.2 45.8	46 40		04 06	39.0 40.0	39.2 40.7	31 33	'
80	54.2	54.8	55	į	o8	60.6	62.4	23 06	1	08	43.9	45.I	40		о8	38.1	38.2	30	
10 12	54.2 54.8	54.6 55.3	55 56		I0 I2	64.8 65.7	65.4 68.7	12		I0 I2	46.5	47·5 45·7	44 40		10 12	36.3 38.0	36.9 38.5	27 30	
14	54.2	55.0	55	-4.5	14	67. I	70.0	17	-3.9	14	44.4	44.9	40	-3.0	14	38.4	39.0	30	-2.3
16 18	51.1 47.3	52.0 48.2	51 45	1	16 18	68.2	69.4 67.6	18 15		16 18	45.0 43.2	45.9 43.4	41 38		16 18	38.0 37.2	38.7 38.2	30 29	
20 22	44.6	45.2 43.8	40 38	i	20	67.8	69.1 66.2	17		20 22	42.0	43.0	36		20	36.9	37·3 37.8	28	
4	43.I 42.7	43.I	37 38		22 24	63.7	65.9	11		24	44. I 43.7	45.8 45.8	40 40	;	22 24	37.2 37.4	38.2	29 29	
26 28	43.2 44.2	44. I 44. 8	38 40	,	26 28	58.9 60.2	61.9 62.2	04 об		26 28	38.6 38.4	39.9 39.8	31 31		26 28	37.0 36.4	38.0 37.6	29 28	
30	45.0	46.I	41	-4.2	30	62.0	65.o	09	-3.9	30	40.2	41.7	34	-2.8	30	35.8	36.9	27 26	-2.2
32 34	45.2 45.2	46.0 46.8	41 42		32 34	61.9 55.5	62.3 57.9	23 07 22 59		32 34	37·3 37.8	38.5 39.0	29 30		32 34	35.3 $35.2$	36.6 36.4	26 26	
6 8	45.7	46.8	42	- 1	34 36 38	55.1	56.9	22 59 58		34 36 38	43.0	43.9	30 38 38		36	35.9	36.9	27	
0	44.9 45.5	46.0 46.6	41 42		36 40	53.0 54.2	55·4 56.6	55 57		40	43.2 39	43.6 .2b	30		38 40	$35.5 \\ 35.9$	37.2 37.1	27 27	
12	46.8	47.8 46.2	44 41	-4.7	42	55.2 55.2	57.6 57.9	57 58 58	-3.7	42	38.8 39.0	39.0 39.8	31 32	-2.8	42	35.0 36.3	36.2 37.7	26 28	-2.2
4 6 8	45.I 47.2	48.1	44	-4.I	44 46	55.0	57.2	22 58	-3.7	44 46 48	39.8	41.2	33	-2.6	44 46	36.2	37.8	28	-2.2
8	46.8 47.6	48.0 49.2	44 46	1	48 50	56.1 54.3	59.0 57.8	23 00 22 58		48 50	38.6 37.9	40.7 38.2	32 29		48 50	36.3 37.1	37·5 38·4	28 29	
2	47.I	48.0	44	11	52	55.2	58.2	59 58		52	35.9	36.6	26		52	37.6	38.5	29	
4 6	49.2 49.7	50.0	44 48 48 46 46		54 56 58	54·4 51.2	58.0 55.6	58 22 54		54 56	33·5 39·2	35·3 40.9	24 32		54 56	37·5 37.8	38.2 38.5	29 30	
8 ,	47.8	49.2	46		58	58.8	63.8	23 06		56 58	40.6	41.6	34		58	38.7	39.4	31	
2	47.8 51.9	48.8 52.3	40 51	-4.0	7 00 02	50.2 54.0	56.2 58.0	22 53 58	-3.6	9 00 02	36.0 36.2	37·3 37.0	27 27	-2.7	II 00 02	37.9 36.6	38.4 37.5	30 28	-2.1
4	53. I	53.9	54	,	04	52.8	58.4	57 56		04 06	37.9	39. I	30		04	35.9	36.6	26	
б 8	56.2 58.7	57·4 59.6	22 59 23 02	-	o6 o8	52.9 51.3	57·7 56.0	54		o8	37.0 36.0	38.0 37.3	29 27		o6 o8	35.6 35.0	36.1 36.0	26 25	
0	57.0	57.3	22 59 58	1	I0 I2	50.6 55.8	53.9 58.8	22 52 23 00		10 12	37.6 34.6	38.7 35.2	30 24		I0 I2	36.1 36.0	37.I 37.0	27 27	
2	56.2 54.8	57.1 55.2	56	-4.0	14	52.0	55.7	22 54	-3.6	14	39.5	40.6	32		14	36.o	36.9	27 28	-2.2
6	51.9	52.3 51.4	51 50	]	16 18	54.2 56.0	57.2 58.2	57 59		16 18	38.5 36.9	39.0 37.5	30 28	-2.7	16 18	37.I 37.5	37.6 38.1	28 29	
0	50.7 50.9	51.4 52.1	51	1	20	54.0	56. I	56		20	37.3	37.6	28		20	37.7	38.2	29	
2		52.1	51 46		22 ; 24	54.2 53.2	55.0 54.0	55 54		22 24	40.6	40.6 42.9	34 37		22 24	38.8	39.0 30.6	31 32	
6	49.I	49.1 49.8	40 47	1	24 26	53.2 48.9 47.7	54.0 49.9 49.0	47		24 26	42.3 38.5 39.7	39.2	31		24 26 28	39.3 39.6 38.6	39.6 39.8	32	
8	49·7	50.0 52.6 58.0	48 22 51	-4.0	28 30	49.3	51.8	46 49	-3.4	28 30	39.7 41.4	39.9 42.2	32 35	-2.5	26 30	30.0 37.6	38.9 37.9	30 20	-2.
2	51.2 57.2	58.0	<i>2</i> 3 00	• 11	32	49.3 47.1 48.6	48.9	45		32	40.0 38.8	40.9	33		32	37.8	38.2	29 29	
5	51.0 54.2	51.9	22 50 22 56		34 36	49.0	50.0	47 47		34 36	38.2	40. I 39. I	32 30		34 36	37·3 36.9	37·7 37. I	29 28	
8	54.2 57.8	51.9 55.8 58.2 65.2	23 01		38	50.8 49.8	51.6 51.0	50 ° 49		38 40	40.8 40.1	41.7 40.2	34		34 36 38 40	36.7 36.1	36.9 36.4	28 26	
2	61.7	03.2	08		40 42	50.3	50.7	49		42	3б.4	36.4	33 27		42	35.7	35.8	26	
4	61.3	63.3	08	-4.0	44 46 48	51.2 47.9	52.3 48.0	51 · 45	-3.4	44 46	33.2 40.0	33.8	22 32	-2.6	42 44 46 48	35.7 36.2	35.9 36.5	26 27	-2.2
8	62.6	64.2 63.8	09		48	50.I	51.2	49		48	41.8	42.3	36		48	35.8	36.2	26	
0	63.0	б4.9 б3.1	10 07		50	46.7 46.7	48.2 49.0	44 45		50 52	38.0 36.1	39.2 36.3	30 26		50 52	36.5 37.5 37.8	36.7 37.6	27 29	
4	62.2	64.6	<b>9</b> 9		52 54 56 58	46.7 47.8	50. I	45 46		54	36.1 35.8	36.5	26		50 52 54 56 58	37.8	38.o	29	
6	63.2	63.9 59.7	00		56 58	47·3 48.1	48.8	45 <b>47</b>		54 56 58	36.0 37.0	36.4 37.2	26 28		50 58	38.0 38.2	38.2 38.4	30 30	

Observers—W. J. P. and R. R. T. alternated from 4h 18m to 4h 34m. R. R. T. and R. W. P. alternated from 7h 52m to 8h 08m.

Observers—R. W. P. (R. R. T. observed readings from 8h 32m to 9h 06m.)

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedn	iesday, Octob	er 28, 1	903			Magne	t scale	erect	Wedi	nesday, Octo	ber 28, 1	903		Magne	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp C.
h m	d d	° ,	0	h m	d	d	0 ,	0	h m	d d	۰,	0	h m	d d	0 /	
2 00 02 04 06 08 10	37.1 37.2 36.2 36.8 35.9 36.9 36.6 37.0 38.0 38.7 36.0 36.9	27 27 28 30	-2.2	02 04 06 08	34.8 33.8 33.6 33.5	35.7 35.8 35.1 34.9 34.7	22 25 25 24 23 23	-1.5	02 04 06 08	31.4 32.4 31.8 32.9 32.9 33.8 33.6 34.4 35.0 35.9	22 23 25	-I.7	18 00 02 04 06 08	31.0 31.7 30.7 31.3 29.6 30.2 28.8 29.4 26.5 27.0	22 19 18 17 15 12	-I.2
12 14 16 18	35.5 36.8 36.8 37.8 38.0 39.2 36.4 36.9	27 26 28 30 27	-2.2	10 12 14 16 18	33.0 34.6 34.5 32.6 32.4	34.3 35.0 36.7 33.6 33.0	22 24 26 22 21	-1.6	10 12 14 16 18	34.5 35.9 34.9 36.0 34.8 36.8 35.9 37.4 36.0 37.8	25 26 27 28	-1.3	10 12 14 16 18	23.8 24.2 22.3 24.2 23.2 25.0 23.9 25.3 23.8 25.4		-1.2
20 22 24 26 28	36.8 38.0 46.3 47.2 38.5 38.9 30.5 30.9 24.5 25.0	28 43 30 18 08		20 22 24 26 28	31.5 32.5 31.8 32.6 32.5	32.2 33.0 32.4 33.6 33.3	20 2I 20 22 21		20 22 24 26 28	36.0 38.0 35.5 37.4 35.5 37.2 34.7 36.4 33.9 36.0	27 27 25 24		20 22 24 26 28	25.4 27.2 26.4 29.1 27.8 30.8 29.0 32.0 32.0 34.9	13 16 18 22	i
30 32 34 36 38	23.8 24.6 27.1 28.3 29.3 30.7 29.6 31.3 31.8 32.8	08 13 17 17	-1.5	30 32 34 36.2 38	32.3 32.3 33.5 33.5 32.6	33.0 33.4 34.1 34.2 33.2	2I 2I 23 23 21	-1.6	30 32 34 36 38	34.8 36.3 35.5 36.8 36.1 36.9 36.0 36.9 35.5 36.3	26 27 27	-1.2	30 32 34 36 38	33.0 35.3 34.3 37.0 34.2 36.9 35.9 38.2 36.1 37.9	23 26 25 28 28	-I.3
40 42 44 46 48	32.5 33.8 37.8 39.2 31.0 32.6 32.2 33.5 31.9 33.4	22 30 20 21 21	-1.5	40 42 44 46 48	32.9 33.2 33.8 33.8 33.2	33.4 33.8 34.3 34.4 33.6	22 22 23 23 23	-1.8	40 42 44 46 48	35.2 36.3 34.9 35.7 34.7 35.7 35.0 35.7 34.3 35.1	26 25 25 25	-1.2	40 42 44 46 48	36.2 37.7 37.0 38.3 37.2 38.7 40.2 41.3 41.1 42.7	28 29 29 34 35	-1.2
50 52 54 56 58	33.0 33.9 32.9 33.8 32.1 33.8 31.9 34.3	22 22 21 22		50 52 54 56 58	32.6 31.6 30.4 31.0	33.3 32.2 31.0 31.6	21 20 18 19		50 52 54 56	34.0 35.2 34.0 35.2 34.2 35.2 34.0 34.7	24 24 24 24		50 52 54 56 58	40.8 42.1 39.2 40.8 41.0 42.2 40.3 41.2 36.2 38.0	35 32 35	1
02 04 06	31.3 33.5 31.4 34.3 33.5 35.0 33.5 35.2 32.8 34.3	20 21 23 24 22	-1.5	15 00 02 04 06	32.8 31.8 31.4 30.7 30.6	33.1 32.4 31.9 31.2 31.3	21 20 19 18 18	-2.0	58 17 00 02 04 06	33.8 34.2 33.1 33.8 33.2 33.8 33.0 33.8 33.2 34.3	22 22 22 23	-I.2	19 00 02 04 06	34.2 35.2 34.1 34.6 34.2 35.8 34.1 35.7	24 24 25 24	-I.2
08 10 12 14 16	33.0 34.0 33.2 34.3 34.8 35.5 34.3 34.9 33.5 34.3	22 23 25 24 23		08 10 12 14 16	29.8 30.6 30.3 30.1 31.5	30.4 31.2 31.0 30.9 31.9	17 18 18 18	-1.9	08 10 12 14 16	33.9 35.0 34.1 35.3 34.5 35.9 34.2 35.8 34.6 35.4	24 25 25	-1.3	08 10 12 14 16	32.9 33.1 30.1 32.1 30.2 31.2 31.1 32.5 31.2 32.3	20	-1.2
18 20 22 24 26	32.I 32.6 33.6 33.8 34.0 34.5 34.9 34.9	20 23 23 24 24		18 20 22 24 26	31.6 29.5 29.7 30.3	30.9			18 20 22 24 26	36.8 37.2 35.6 36.8 35.0 35.0 33.8 34.8 32.3 33.6 31.8 31.0	26 25 24		18 20 22 24 26	29.0 31.3 29.0 30.4 29.3 31.2 30.7 32.1 30.9 32.1	16 17 19	
28 30 32	34·3 34·3 33.8 34·2 35.2 35.6 36.0 36.5 36.8 36.8	25 26 28	1	28 30 32 34	29.3 30.2 30.5 30.8 30.5 31.6	31.2 31.6	18 19 18	-1.9	28 30 32 34	30.9 32.1 31.0 32.1 30.8 32.0	20 19 19 19		28 30 32 34	30.1 32.1 28.9 30.2 32.5 32.8 31.8 32.6	19 16 21 20	-1.3
34 36 38 40 42 44	35.0 35.6 34.3 34.6 34.3 34.5 33.3 33.8 32.3 32.8	24 24 22 21	-1.6	36 38 40 42 44 46	31.0 31.2 32.3 32.3 31.8	31.8 31.5 32.8	19 19 21 21	-1.9	36 38 40 42 44 44	31.0 32.2 31.7 32.3 31.8 32.9 31.1 32.7 30.4 31.9	20 20 20 20 19		36 38 40 42 44	30.8 31.8 28.7 29.7 28.1 29.2	19 16 15	-I.
44 46 48 50 52 54 56 58	31.3 31.6 30.2 30.6 32.8 33.6 31.8 32.6 31.8 33.2	17 22 20 21	1	48 50 52 54	30.8 31.3 31.8 31.5	31.2 31.9 32.0 32.1	18 19 20 20		48 50 52	30.7 31.0 30.4 32.0 30.2 31.0 30.5 31.2 30.9 31.0	19 18 18 18 19		46 48 50 52	27.2 28.1 26.5 27.8 25.8 27.0 26.2 27.4 26.9 28.5 27.4 29.2	11 12 13 14	
56 58	31.9 33.2 33.8 35.4	21		56 58	31.9		20		54 56 58	30.6 31.2 31.2 31.8	18	1	54 56 58	27.9 29.1 27.7 29.1	14	

Observers—R. W. P. and W. J. P., who alternated from 12h 04m to 12h 22m. W. J. P. and R. R. T., who alternated from 15h 52m to 19h 58m. (W. J. P. observed readings 17h 50m to 18h 08m.) 16h 06m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedr	iesday, Octo	ber 28, 1	1903			Magn	et scale	erect	Thur	sday, (	October	29, 190	3		Magr	net sca	ale inv	erted
Chr'r time	Scale readings Left Righ	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	Scal readin	igs	East decli- nation	Temp C.
h m	d d	,	•	h m	đ	d	0 ,	0	h m	d	d	0 /	۰	h m	d	d	0 /	0
00 00	27.8 29. 27.3 28.	<b>5</b> 14	-1.3	22 00 02	24.7 26.2	26.3 28.2	22 10	-1.6	16 00 02	4I.3 39.0	37.8 36.0	22 44 47	-I.2	18 00	50.5	50.5	22 26 26	-2.3
04 06	26.0 27. 26.7 27.		1	04 06	27.8 27.7	30.0 29.7	15		04 06	37.6 39.6	34.8 36.6	49 46		04 06		18.9 19.2	29 28	
80	27.8 28.	5 14		08	27.5	29.1	14		о8	39.3	36.6	46		08	50.7	50.6	26	
10 12	28.5 29. 27.9 28.			10 12	28.2	29.7 30.0	15 16		I0 I2	40.6	38.3 37.6	44 45		I0 I2	_	19.7 50.3	28 27	
14	26.8 27.	3 12	-I.O	14	30.2	31.3	18	-1.7	14	41.7	39.5 34.8	42	-1.5	14	50.5	50.2	27 26	-2.3
16 18	26.5 26. 27.7 27.			16 18	31.0 33.4	32.I 34.4	19 23		18	36. I 32.4	34.8 30.7	50 22 56		18	52.2	50.1	20 24	1
20	27.7 27. 26.8 27. 28.2 28.	12		20	32.8	33.5	22		20	27.5	27.0	23 03		20	54.3	53.8	21	
22 24 26	28.8 29.			22 24 26	31.6	32.2 30.1	20 17		22 24	19.6	17.9 18.2	16 16		22 24 26	56.9	53.6	21 18	
26 28	27.5 27. 27.0 27.			26 28	28.0 28.1	28.9 28.8	14 14		26 28	17.6	16.3 17.5			26 28	59.7	58.0   59.2	13 11	
30	24.7 25.	0 09	-1.3	30	27.6	28.0	13	-I.8	30	20.4	18.5	15	-2.0	30	57.7	55.9	16	-2.2
32	24.6 24. 24.9 25.		I .	32 34	28.5 28.5	29.5 28.6	15 14		32	21.0	19.3 21.4	14 10		32		52.5	23 25	
34 36 38	25.2 25.	9 10		36 38	28.1	28.9	14		34 36 38	29.6	27.3	23 01		34 36 38	51.0	50.7	25 26	
38 40	25.6 27. 26.3 27.			38	27.2	27.8 27.3	13 12		38 40	33.6	30.5 33.5	22 56 51		38 40		51.5	24 24	!
42	25.0 26.	б 10		42	28.2	29.0		-1.8	42	37.6	35 · 3 37 · 8	49		42	52.0	51.2	25	
44 46 48	25.3 26. 26.8 27.		1 .	44 46	30.9	31.8 34.2		-1.0	44 46 48	40.5	37.0	44 41	-2.0	44 46 48	52.7	51.1	25 24	-2.2
48	26.5 27.	7 12 8 10		48 50	33.4	34.6			48 50	44.1	41.5 42.9	38 36		48 50		51.9	24 24	
50 52	23.6 24.			52	33·3 37·7	34·3 39.0	30		52	45.4 46.2	44.2	35		52		50.8	25	1
54 56 58	24.8 25. 26.7 27.			52 54 56	40.3	42.2 43.7	34 37		54 56 58	44.4 56.3	42.6 54.3	37 19		54 56 58		51.1	25 23	1
58	25.6 26.	0 10		58	41.5	42.8	36		58	53.7	50.7	24			53.9	52.7	22	
2I 00 02	26.2 26. 24.8 25.	- 1	_	23 00 02	41.0	4I.9 4I.2		-1.9	17 00 02	56.3 58.1	53.8 56.3	19 16	-2.2	19 00 02		55.9 57.1	17 15	-2.2
04	23.0 23.	5 06		04	40.0	41.1	33		04	60.1	58.5	13		04	61.0	59.8	11 08	
o6 o8	25.3 25. 26.4 27.			06	38.1	39.I 39.I	30		06	60.6	58.9 59.4	12		: 06 08	64.7	62.0	05	1
10	27.8 28.	7 14		10 12	41.3	44.0			10 12	61.3 58.6	59.6	11		10 12		64.2 62.1	04 08	
12 14	27.7 28. 26.2 27.			14	43.6 39.4	44.0 41.2	33	-2.0	14	56.6	57.0 55.0	15 18	-2.2	14	63.0	61.8	08	-2.3
16 18	26.2 27. 25.2 26.			16	39.0 36.4	41.3 38.3			18	56.5	55·5 57·6	18		18		60.7 58.7	10 13	
20	25.2 26. 25.3 26.	1	(	20	35.0	37.0	26	ļ	20	59.3	58.6	13		20	61.2	60.8	10	1
22	25.3 26.	- 1	1	22	34.8	25.2	24		22	60.3	59.8 60.3	12 10		22	62.0 63.1	61.7   62.9	09 07	İ
24 26	24.5 25. 23.9 25. 24.8 28.	7 09		24	33.8	35·4 34.8	. 24		24 26	61.3	60.9	10		24 26	65.6	64.9	03	
28 30	24.8 28. 25.9 28.	1 11 9 13		28 30	33.5	34.8 36.3	23 26	-2.0	28 30	61.6	60.1 61.3	9 11	-2.3	28 30	65.8 63.1	65.1 62.2	03 07	
32	24.9 27.	5 11		32	35.0 32.8	36.3 33.8	22		32	63.1	62.4	07		32	61.0	60.2	10	1
34 36 38	24.9 27. 25.8 30. 28.0 32.			34 36	32.1	32.8 32.2		1	34 36 38	63.7	63.1 64.8	06		34 36 38	61.0 54.6	60.3 54.3	10 20	
38	25.8 29.	4 13		38	36.0	36.9	27		38	65.3 67.8 69.0	67.1	22 00		38	57.0	54.3 56.8	16	
40	26.2 29. 23.9 28.	0 I3 2 I0		40 42	31.8		22		40	68.3	67.4	21 58		40 42	56.9	56.4 55.3	16 18	
42 44	25.8 29.	6 13	-1.6	44	35·5 36.2	35.6	25	-2.I	40 42 44 46 48 50	64.7 60.9	64.1	22 05 10	-2.3	44	56.9	55.2	18	
46 ⊿8	25.4 29. 22.3 25.			44 46 48	38.5	38.5	30		48	58.6	57.9	14		46 48	53.8	51.7 50.8	23 24	
50	22.9 25.	3 08		50	38.2	39. I	30		50	57.6 57.6	56.6	16		50	53.8	50.9	24	. ,
52 E4	22.0 25. 23.7 25.			52 54	37.0 34.8	35.9	25		54	57.6	57.0	16	1	52 54	53.2	51.9 51.2	22 24	.
44 46 48 50 52 54 56 58	23.9 25.	9 09		54 56	35.0	35.3	25		52 54 56 58	56.3	55·5 53·9	18		54 56 58	51.8	50.6 50.8	25 26	
58	23.5 25.	5 08	'	58 24 00	36.5 37.0	37·3 37·7			30	34.3	23.9	21		20 00		50.0	27	

Correction to local mean time is + 1m 58s. Torsion head at oh oom read 339° and at the end read the same. Observer—R. W. P. Correction to local mean time is + 2m 11s. 90° torsion = 22.'4. Torsion head at oh 22m read 339° and at 20h 47m read 348°. Observers—W. J. P. and R. R. T., who alternated from 18h 16m to 18h 30m.

Frida	ay, October 3	0, 1903		•		Magne	et scale	erect	Sund	ay, No	ovembe	r 1, 190	3		Ma	gnet s	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp C.
h m 20 00	d d	0 ,	0	h m	d	d	. ,	•	h m	d	ď	0 ,	۰	h m	d	d	0 ,	•
02	36.5 41.9 34.7 39.2 38.8 41.9	22 04 0I	-7.3	22 00 02	48.8	49.7 51.2	22 20	-4.8	0 00*	46.8	38.3 10.5	25 27	-13.0	2 00	29.6	23.7 19.4	23 36 40	-I2. I
04 06	44.9 48.2	06		04 06	52.8 45.9	53.8 46.8	27 16		04 06*	68.8 65.6	42.3 21.3	26 08 25 29	!	04	30.6 20.0	29.9 6.8	32 58	
10 80	39.8 44.3	15		08 10	43.1 44.8	44.8 46.6	12 15		08 10	57·3 46.9	36.6 36.3	23 25 31		08 10*	45.0 44.5	32.0 40.3	23 I9 22 I3	
12 14	41.9 46.1 43.3 47.0	I2 I4	-7.0	12 14	46.2 46.2	46.8 47.8	16 17	-4.4	12* 14*	67.4 59.8	60.7 41.0	24 12	-I2.9 i	12 14*	23.7 35.6	12.0 16.6	22 51 23 58	-I2.2
16 18	40.7 45.2	10	7.0	16	47.0	47.4	17	4.4	16 18	77.2	44.6	08	12.9	16* 18	38.0	22.5 18.2	24 56	12
20	40.1 45.2 41.0 45.3	10		20	48.8	49.0 50.0	19 20		20	57.0 57.6	54·5 54·0	16 16		20*	30.6 62.5	42.5	25 04 25 45 26 58	
22 24	43.0 47.0	I4 I4		22 24	58.2 57.1	59.0 58.1	35 33		22 24	41.0 43.8	40.9 36.2	40 41		22* 24*	43.0 63.2	15.3 10.0	24 59	
26 28	43.0 46.2 40.2 44.0	13	1	. 26 1 28	61.4	62.2 65.2	40 45		26 28	56.5	54·5 60.8	17 04		26* 28*	22.0 44.0	14.0 35.0	25 55 26 37	
30 32	38.1 41.6 37.2 41.9	06	-6.4	30 32	70.8 63.8	71.8 64.5	55 44	-4.3	30 32	65.5 60.8 52.4	57.2 38.6		-12.8	30* 32*	69.2 18.3	58.3 11.5	24 4I 33	-12.0
34	40.2 44.8	10 16	1	34	61.2	63.2	41		34 36*	18.5	II.O	24 20		34	37.2	31.8	24 02	
36 38	50.6 53.3	24	1	<b>3</b> 6 38	56.4 56.0	58.8 57.9	33 32		38*	54.6	19.0 41.0	24 50 25 17		34 36 38	77.2 42.6	67.0 33.5 8.3	23 03 23 57	
40 42	51.2 55.4 50.2 54.6	27 25	ı	40 42	56.0 54.1	57.8 55.8	32 29		40 42	73.3 74.8	55.0 72.0	24 52 37		40 42*	11.6 29.3	8.3 9.0	24 4I 24 57	
44 46 48	46.1 51.4 47.8 52.1	19 21	-5.8	44 46	51.3 51.0	53.2 52.0	25 24	-4.2	44 46*	76.1 52.0	75.I	34 24 04	-12.6	44* 46 48	29.3 75.8 57.0	67.0 53.5	22 55 23 20	-12.0
48 50	46.1 51.1 47.2 51.7	19 20		48 50	44·4 42.2	45.8 43.8	14 10	'	48 50	70.3 27.3	44.5 66.3	23 32 24 38		48	38.5	35.8 19.2	23 48 24 14	
52	48.2 52.9	22		52	40.3	42.I	о8		52	24. I	25.4 18.8	46		50 52	24.8	14.4	24 16	
54 56	50.1 54.3 50.3 54.3	25 25		54 56	42.6 43.1	43.0 44.4	10 12		54 56	42.3 49.5	26.3 41.4	26 08	i	54 56	36.8 25.5	35.0 14.5	23 50 24 14	
58 21 00	50.8 54.8 49.5 52.9	26 23	-5.4	58 23 00	44.3 46.1	45·3 47·1	13 16	-4.I	58 1 00	34.0 11.5	27.4 9.5	24 3I 25 03	-12.5	58 3 00	20.8 37.0	8.2	24 23 23 53	-12.0
02 04	48.2 50.8 50.1 52.3	2I 23		02 04	46.3 46.6	47·3 47·2	16 17		02* 04*5	26.2 47.0	18.9 39.9	25 24 . 26 09		02*3 04	43.0	31.3 50.8	24 35 24 II	
o6 o8	49.9 52.2 42.9 51.0	23		o6 o8	47.0 44.8	47.2 45.1	17		o6 o8*	43·4 59·3	37·3 47.8	26 I3 25 00		o6* o8	14.3 53.1	13.3 36.8	26 03 25 14	
10	53.1 55.1	17 28		10	44.8	45.8	14		10	25.5	22.3	46		10	22.7	7.3	26 OI	
12 14	47.1 49.4	19	-5.2	12 14	46.2 47.0	47.2 47.9	16 17	-4.0	12 14*	30.5 55.5	23.0 43.7	25 42 24 14	-12.3	12 14*	16.7 57.5	11.5 42.2	03 58	-12.0
18 18	43.0 45.2 47.3 49.7	12		18	44.2 45.3	45.8 47.0	14 15		18	73·3 59·7	50.6 54.3	23 55 24 <b>0</b> 2		16 18*	73.0 23.0	40.3 15.0	26 48 29 04	
20 22	47.8 50.8 45.4 46.8	20 15		20 22	47.0 44.5	48.3 45.8	18 14		20 22	63.5	44.7 60.6	24 07 23 51		20* 22*	61.0 63.6	34.0 51.0	26 43 23 21	
24 26	44.2 46.8 46.2 49.7	14 18		24 26	44.2 46.0	45.2	13 15		24 26	76.6	63.0	42	die	24* 26	64.6	35.3	11 28	
28	47.9 51.7	21		28	47.2	46.2 48.0	18		28*	72.0 64.0	70.2 46.0	23 40 22 43		28	65.2 37.2 67.5	13.5	23 43	
30 32	48.2 51.2 43.3 44.1	2I I2	-5.1	30 32	46.1 46.4	46.9 48.0	16 17	-4.1	30* 32*	24.5 43.5	10.6 30.2	24 02 28	-12.2	30* 32*	28.0	56.3 12.3	22 34 24 II	-I2.0
34 36	46.1 47.1 45.2 46.9	16 15		34 36	48.3	49.9 52.2	20 ' 24		34 36*	61.0 42.1	36.2 33.3	24 IO 23 04	ľ	34* 36	75.0 69.0	49.0 47.0	22 54 23 00	
38 40	40.2 43.3 35.7 37.8	08 01		38 40	51.0 51.2	52.0 52.8	24 25		38 40	39.2 30.0	33·3 38.2 18.5	03 25		38* 4 <b>0*</b>	67.5 44.0	18.0 28.0	25 57 31 04	1
42	40.2 42.0	· 08	- 5 0	42	52.6	54.1	27	-12	42*	25.5	19.0	45	- to o	42	37.5	11.0	31 04 31 28	70.5
44 46	36.7 37.0 40.2 41.8	07	-5.0	44	55.8	57.8 58.9	32 34	-4.2	44 46	29.2 41.3	30.6	22	-12.0	42 44* 46* 48	75.0 46.3	28.5 13.6	30 25	-12.0
48 50	38.3 38.8 43.2 43.8	04 11		48 50	57.8 56.9	59.2 57.4	35 33		48 50	49.6 49.2 48.5	36.8 35.0	13		50*	51.3 38.3 74.6	9.5 21.8	30 24 31 19	
52 54	37.8 38.0	02 01		52 54	56.0 54.3	56.9 55.8	32		52	30.3	34·3 27·3	14 34		52* 54*	74.6 64.0	27.8 12.8	32 43 30 16	
44 46 48 50 52 54 56 <b>58</b>	36.7 <i>a</i> 40.8 42.1 43.3 44.3	08 12		54 56 58	52.2 52.8	54.3	29 26 27		54 56 58	34.0 29.0	26.0 22.0	32 39		56* 5 <b>8</b> *	61.6	21.0	28 27	
20	נידד טיטד	1		24 00	55.9	54.2 57.8	32	-4.4	30			39		50	···.	U. Z	37 31	

Correction to local mean time is + 2m 20s.

Torsion head at 19h 38m read 348° and at 24h 16m read the same.

Observer-R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Sunda	y, Novembe	r 1, 1903			-	Magne	t scale	erect	Mond	lay, No	vembe	r 2, 190	3		Mag	gnet so	ale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	Sc: read	_	East decli- nation	T'emp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	
h m 4 00 02 04	d d Overl'k'd Lost while reversing		-11.3	h m 6 00* 02* 04*	d 30.1 40.9 38.3	d 71.7 61.2 64.1	24 37 25 16 26 56	-10.0	h m 8 00* 02 04	d 70.0 46.7 28.5	d 61.3 33.5 20.0	21 54 22 34 22 59	-20.5	h m 10 00 02 04	d 41.8 38.3 34.8	d 41.2 37.3 32.1	14 21	-16.6
06* 08* 10* 12* 14*5 16*	26.0 44.3 24.1 74.0 16.8 61.0 41.4 46.9 56.7 59.3 32.9 57.8	26 15 24 34 22 24 25 27 25 -	-11.0	06* 08* 10* 12	18.8 14.3 48.3 L	53. I 34.2 60.3 ost 37.2	25 09 23 32 25 48 25 54	-10.0	06* 08 10 12 14	33.0 47.0 52.2 42.8 41.2	27.5 42.0 48.0 33.2 38.0		-19.5	06 08 10 12	40.0 45.3 46.0 42.0 45.3	38.1 43.8 42.4 40.1 43.3	13 04 04 10 04	-16.2
18* 20* 22* 24*3	8.5 14.5 31.8 58.8 25.0 50.0 48.0 68.1	28 43 27 14 24 10 23 58 27 29		16* 18* 20* 22 24* 26	33.0 55.2 35.2 64.4 25.6	65.8 72.8 45.8 74.3 49.7	24 05 22 48 23 58 24 43 25 32		16 18 20 22 24 26	37.0 41.0 52.0 50.6 41.2	32.7 38.5 49.4 45.5 36.2	23 10 22 53 22 57 23 11		16 18 20 22 24 26	44.2 44.3 43.0 41.2 37.9 45.8	42.9 43.0 41.0 38.2 36.0	06 06 08 12 16	1
26* 28* 30* 32* 34*	47.7 73.0 10.8 28.1 42.1 63.8 42.0 60.8 7.2 56.3	24 0I 23 29	-10.4	28 30 32* 34*	29.7 34.9 24.6 29.2 12.1	59.7 72.7 55.5 66.7 73.4	25 05	-9.9	28 30 32	38.0 51.3 50.6 54.0 59.6	18.7 34.5 35.8 52.3 56.8	28 04 23 04 22 49 41	-18.7	28 30 32	50.9 51.2 52.7 53.8	43.2 46.2 48.6 50.2 52.2 56.3	23 04 22 58 56 53 51	- <b>16</b> .c
36* 38* 40* 42* 44	16.0 54.9 7.0 46.1 37.3 74.2 34.8 71.0 25.4 60.8 10.0 43.8	23 4I 24 19 36 51 35 24 10	-10.2	36* 38* 40 42 44 46 48	19.8 66.0 42.8 38.2 37.1 51.1	78. I 67. 7 44. 2 48. 2 44. 3 52. 8	15 25 27 24 49 49 24 45 25 03		34 36 38 40 42 44 46	54.8 59.0 53.6 50.3 56.0 51.2	46.0 49.5 46.5 39.5 47.3 42.8	53 47 22 54 23 02 22 51 58	-18.3	34 36 38 40 42 44 46 48	57.7 57.8 59.2 61.1 64.6 63.2	57.1 58.0 60.7 63.0 62.1	45 45 43 38 34 36	-15.8
48 50* 52 54 56*	17.3 19.0 17.7 18.9 62.8 66.8 67.2 72.8 46.8 56.0	23 55 23 27 24 39 48 51		48 50 52 54 56	41.2 24.9 40.8 43.0 50.4	46.0 36.3 43.8 49.1 63.3	24 49 29	-10.0	48 50 52 54 56	52.3 45.8 51.9 48.7 42.7	44.4 37.6 44.2 43.6 37.8	22 56 23 07 22 57 23 00 09		48 50 52 54 56 58	61.8 61.8 68.8 68.4 64.4	60.5 60.0 67.1 65.7 62.6	39 39 28 29	
58 5 00 02 04*	36.1 55.0 59.8 65.3 Lost 29.2 49.8	24 4I 25 08	-10.3	58 7 00 02 04	33.8 44.1 50.9 39.9	49.3 46.8 53.2 41.2	24 46 24 52 25 02 24 44	!	58 9 00 02 04 06	48.8 47.3 51.3 39.8	42.5 42.1 45.6 36.6	01 23 02 22 57 23 13	-18.o	58 11 00 02 04 06	68.8 76.3 73.4 66.8	66.1 71.7 64.7 59.0	29 18 27 36 36	-15.5
06* 08 10* 12	28.7 48.8 Lost 38.2 43.5 Lost 7.9 19.2	23 42	-10.3	06 08 10 12	55.2 52.3 51.2 52.1 58.1	58.0 58.3 57.3 60.9 68.9	25 10 08 06 10 21	-10.7	08 10 12 14	40.5 44.0 42.0 42.3 42.7	35.8 37.8 35.6 33.3 37.4	13 08 12 14	-17.9	08 10 12	64.3 57.2 51.7 47.7 39.9	62.3 52.5 48.1 43.1 35.6	49	-15.:
16* 18* 20 22*	21.2 52.0 46.3 74.8 25.6 45.0 23.7 32.7	26 16 25 36 24 34		16* 18 20 22	26.2 15.8 18.1 10.1	42.2 33.4 18.7 12.8	30 15 25 05 24 54		16 18 20 22 24	42.5 46.5 42.1 43.1	37.5 42.7 37.0 40.0	03 11 07	!	16 18 20 22 24	42.9 48.1 45.8 51.2 50.9	38.2 41.8 38.2 45.0	23 09 22 59 58	
24* 26* 28* 31* 32	70.0 71.8 49.6 52.6 18.9 36.1 16.2 25.8 27.3 55.0	23 55 24 18 25 15 22 31 23 03	-10.3	24* 26 28 30 32	43.3 36.8 32.1	39.0	45 34 26	-10.8	26 28 30 32	47.2 47.9 38.2	42.9 $33.5$	23 01	-17.6	26 28 30 32	54.7 62.8 56.0 54.8	46.8 49.6 57.3 54.8 52.3	53 41 49 52	-15.0
34* 36* 38* 40	47.1 75.7 22.2 71.3 19.8 44.0 23.2 77.8 Overl'k'd	22 54 22 37 23 13 42		34 36 38 40 42	43.1 48.6 60.5 64.9 65.1	61.8	40 24 48 25 06 14 13		34 36 38 40 42	38.2 33.8 39.0 35.4 36.7	27.3 33.1 32.2	18 25 17 20 19		34 36 38 40 42	51.9 48.2 47.1 48.3 48.0	50.2 45.7 43.7 45.3 44.9	22 55 23 02 04 02 03	
42 44* 46* 49* 51*	18.2 33.3 43.0 71.0 48.8 67.8 31.1 35.1	22 08 20 13 26 09 21 55	-10.0	44 46 48 50	56.4 59.3 63.6	59.6 60.1 64.4 60.1	01 14 11	-11.0	44 46 48	36.7 46.6 49.8 49.7 57.9 52.8	47.2 47.8		-17.0	44 46 48 50 52	49.7 52.2 57.2 57.8 54.9	44.9 46.7 50.2 55.4 56.9 52.9	23 00 22 55 47 45 51	-15.
52 54* 56* 58*	Overl'k'd 45.2 72.3 18.2 42.8 14.0 69.1	25 05 27 05 26 31		52 54 56 58 8 00	44.9 50.7 45.3	45.9	41 50 41		50 52 54 56 58	51.1 46.3 43.8	48.2	22 56		54 56 58 12 00	61.0 68.8 60.8	52.9 59.3 62.7 56.1 55.0	31 41 32 44 46	:

Correction to local mean time is +2m 36s. 90° torsion = 24.′5. Torsion head at 23h 30m, October 31, read 348° and at 9h 19m, November 1, read 17°.

Observers—W. J. P. and R. R. T., who alternated from 3h 58m to 4h 18m.

Correction to local mean time is + 2m 38s. 90° torsion = 24.0. Torsion head at 7h 40m read 339° and at 12h 29m read 321°. Observers—W. J. P. and R. R. T., who alternated from 9h 22m to 9h 36m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Tues	day, Novemb	er 3, 19	03			Magn	et scale	erect	Wed	nesday, Nov	ember 4,	1903		Ma	ignet s	scale inv	rerted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d d	0 ,	•	h m	d	d	۰,	•	h m	d d	. ,	•	h m	đ	đ	0 ,	•
12 00 02 04	Delayed account frosted			14 00 02 04	53·5 55·9 56.2	56.8 59.0 59.0	22 45 49 49	-17.3	0 00* 02* 04	69.0 68.2 47.3 40.6 42.5 35.8	48	-20.0	2 00 02 04	33.6 33.9 31.6	33.I 33.I 30.6	22 57 22 57 23 00	-17.2
o6 o8	mirror			o6 o8	55.2 51.5	58.1 53.6	49 48 41		06 08	37.6 32.8	54		o6 o8	30.0 33.5	29.4 33.1	23 03 22 57	
10	40.3 49.0	22 29	-18.5	10	51.0	53.0	40		10	32.6 27.8	23 02		10	34.6	34.2	55	/
I2 I4	42.6 50.2 45.3 51.7	3I 35		12 14	54.2	55.2 56.5	45 46	-16.9	12 14	35.0 30.1 35.2 31.0	22 58 57	-19.5	12 14	33.6 33.6	33.3 33.6	57 22 56	
16	49.0 52.0	35 38	'	16	54.7	57.2	46	10.9	16	38.5 34.3	52	19.3	16	31.2	30.6	23 01	
18 20	49.8 53.3 51.0 54.5	40 41		18	50.3 49.6	53.2 52.8	40 39		18 20	39.6 35.7 42.7 39.0	50 45		18 20	32.0	ost 31.2	23 00	-17.0
22	48.2 50.8	36		22	50.2	52.8	40		22	41.5 37.6	47		22	36.0	36.0	22 53	,
24 26	40.5 43.6 35.0 36.3	25 15		24 26	49.9 47.1	52.7 49.3	39 34		24 26	43.1 38.9 45.8 42.5	45 40		24 26	37.2 36.8	37.2 36.8	51 51	
28	31.0 33.2 27.3 28.3	09 02	-18.5	28	47.2	49.I	34	-16.7	28	40.6 35.6	22 49	-18.8	28	35.8	35.8	22 53	76.0
30 32	33.0 33.0	10	-10.5	30 32	47.1 45.5	49·4 47·2	34 31	-10.7	30 32	32.8 28.2 32.3 28.3	23 OI 02	-10.0	30 32	30.6	30.6 31.5	23 OI 23 OO	-16.9
34 36	26.5 29.5 29.0 33.3	03 08		34 36 38	45.9 47.2	46.8 48.8	31 34		34 36 38	33.0 29.2 32.4 28.9	00 23 0I		34 36 38	32.8 33.3	32.6	22 58 57	
38	27.5 31.7	22 05		38	45.8	47.7	32		38	33.3 30.3	22 59 58		38	32.1	$33.3 \\ 31.8$	22 59	
40 42	20.8 28.8 24.3 34.0	21 58 22 04		40 42	44.6 42.5	46.2 44.2	30 27		40 42	34.0 31.4 34.8 32.0	22 57		40 42	31.3 34.3	$31.3 \\ 33.5$	23 00 22 56	
44	34.4 37.0	15	-18.5	44	38.8	41.2	22	-16.6	44	31.8 28.6	23 02	-18.5	44	33.3	33.3	57	-16.8
44 46 48	34.8 38.6 36.8 42.0	16 20		46 48	30.8 29.1	31.9 30.2	08 05		44 46 48	29.5 26.0 Observer	об		44 46 48	39.9 41.2	39.9 40.7	47 45	
50	36.8 39.8	19		50	31.5	31.9	05 08		50	called			50 52	43.0	43.0	42 38	
52 54 56	35.4 41.8 33.3 35.9	19 13		52 54	41.9 44.7	44.2 48.8	26 32		52 54	away			52 54	45.7 44.4	45.I 43.0	38 41	
56 58	37.4 38.0 34.8 40.6	13 18 18		54 56 58	39.8	44.2	25		54 56 58	22.3 19.8 21.0 18.9	16 18		54 56 58	42.9	42.2	43	
13 00	39.0 45.7	25 26	-18.3	15 00	38.7 39.8	42.I 43.2	22 24	-16.3	1 00	18.3 16.8	22	-18.3	3 00	43.0 42.0	42.1 40.8	43 44	-16.5
02 04	40.3 45.8 42.0 45.8	26 28		02 04	41.0 43.2	44.0 46.0	25 29		02 04	20.6 18.8 26.8 25.3	18 08		02 04	40.2 41.0	39·5 40·3	47	
06	44.5 48.3	31		06	43.9	46.8	30		06	31.3 29.4	23 02	Ì	об	38.0	37.6	45 50 <b>56</b>	
08 10	51.7 52.7 52.5 54.8	41 43		08 10	46.1 47.5	49.0 50.8	33 36		08	32.8 31.2 33.1 31.8	22 59 58		08 10	34·5 35·7	34.0 34.8	56 54	
12	51.9 55.3	43	0	12	47.2	49.9	35		12	34.6 33.3	56		12	36.5	35.8	53	
14 16	52.6 56.5 56.0 58.6	44 49	-18.2	14 16	46.2 45.2	49.4 48.6	34 32	-16.2	14 16	35.0 33.8 35.0 33.9	55 55	-18.o	14 16	37.0 36.0	36.3 35.6	52 53	-16.5
18	53.8 56.8	46	1	18	47.1	49.9	35		18	33.8 33.0	57		18	37.3	36.8	51 '	
20 22	57.3 60.9 57.3 60.6	52 51		20 22	47·3 49.8	50.2 52.7	35 39		20 22	36.5 35.3 35.6 34.8	53 54		20 22	36.0 38.0	35·5 37.6	53 50	
24	55.4 59.3	49		24 26	51.3	53.I	41		24	33.0 32.8	57		24	30.6	38.3	48	
26 28	59.3 62.9 57.6 61.6	55 52 56 58 57 56		26 28	50.2 47.2	52.4 50.7 48.2	39 35 32 33 38 28		26 28	34.7 34.0 36.4 35.8 38.1 37.3	55 52 50 46		26 28	40.0 44.8 45.6	39.0 43.5	47 40	
30 32	00.0 03.0	56 £8	-18.o	30 32	47.2 44.6 45.2 48.6	48.2 49.6	32	-16.0	30 32	38.1 37.3	50 46	-17.8	30	45.6	44.6	40 38	-16.4
3 <u>4</u>	60.6 64.0	57		34	48.6	52.8	38		34	40.3 39.7 40.0 39.8 41.2 40.8	47		34	45.8	43.0 45.0	41 38	
34 36 38	60.3 63.3	56 51		34 36 38	42.I	46.0 47.9	28 31		34 36 38	41.2 40.8 40.8 40.2	45		36 38	46.5	45.3 46.0	37 36 28	
40	57.5 59.9 55.3 57.8 55.3 58.6	47 48		40	44.2 46.0	40.2	33 36		40	39.2 39.2	45 46 48		40	51.9	51.7	28	
42 44	53.0 50.4	48 45	-18.o	42 44	47.7 51.0	51.2 54.8	30 42	-15.8	42 44	37.9 37.9 37.2 37.2 36.2 36.2	50 51	-17.5	42 44	54.8	54.0 53.4	24 25	-16.3
46	52.8 54.8	43		46	53.0	50.7	45		44 46 48	37.2 37.2 36.2 36.2	52 55	-7.5	46	55.0	54.5	23 28	-3.5
40 42 44 46 50 54 55 58	50.8 54.0 52.2 55.9	41 43		44 46 48 50 52 54 56 58	52.4 $53.9$	56.7 58.1	44 47		50	34·5 34·5 34.8 34.8	55 55		28 30 33 34 44 44 44 44 44 44 44 44 44 44 44	44.2 45.8 46.5 47.2 51.9 54.0 55.0 52.0 48.3	51.2 47.7	28 34	
52	54.5 58.3	47 46		52	49.0	53.2 46.8	39		52	34.5 34.5	55 55		52	49.4	48.7	32	
54 56	53.7 57.1 53.0 57.2 53.6 56.8	40 45		5 <del>4</del> 56	42.9 43.0 48.2	46.3	29 29		52 54 56 58	34.5 34.5 34.7 34.5 33.6 33.3	55 57		54 56	49.4 47.8 44.8 39.8	46.8 43.6	35 40	
58	53.6 56.8	45		58 16 00	48.2 49.2	51.6 53.7	37 39	-15.7	58	33.6 33.3 32.3 31.8	59		58	39.8	38.8	40 48	

Correction to local mean time is + 2m 37s.

Torsion head at 11h 44m read 315° and at 16h 30m read the same.

Observers—W. J. P. and R. R. T., who alternated from 13h 46m to 14h oom.

Observers-W. J. P. and R. R. T., who alternated from 3h 56m to

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Chr'r time	Scale reading Left Rig	s c	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m		d	0 ,		h m	d	d	• ,	•	h m	đ	đ	. ,	•	h m	đ	ď	0 /	•
4 00 02	39.8 34	.9 ±	22 52 51	-16. I	6 00 02	22.6 22.8	22.3 22.0	23 I4 I4	-15.4	8 00	44.0 42.8	39.6 38.8	22 44 45	-15.1	10 00 02	41.0 48.6	37.8 43.8	22 47 37 48	-15.2
04 06	37.2 32	.9	52 55		04 06	26.0 27.8	25.0 27.0	09 23 06		04 06	43.8 43.8	40.0 41.2	44 43		04 06	42.0 40.1	36.2 33.8	48 51	
08 10		.3	55 58 57		08	33.2 31.0	32.2 29.0	22 58 23 02		08	41.2 43.4	38.8	43 46 43		08	35·9 37·4	30.4 33.5	57 54	
12 14		.2 3.1	53 46	-16.0	I2 I4	30.6 31.0	29.0 26.7	02 04	-15.4	12 14	42.2 44.3	40.0 41.8	45 42	-15.2	12 14	40.5 39.7	35.6 35.1	50 51	_15.I
16	44-3 39	).5 7.7	44 46	20.0	16	26.2 30.8	24.0 29.0	10 02	13.4	16 18	43.0	41.1 43.2	43 40	-5	16 18	43.8 48.6	39.0 45.5	44 35	
20 22	43.7 39	). I	44		20	32.0	30.8	23 00		20 22	45.6 48.1 41.2	46.7 40.2	35		20 22	50.8	46.0	33 42	
24 26	46.8 42	2.3	41 39		22 24 26	36.2 38.2	35.9 37.8	22 53 50		24 26	34.8 35.8	33.2	45 56		24 26	37.0 35.0	31.6	55 57	i
28	46.I 42	2.2	41 40		28	40.2 39.2	39.2 37.3	47 49		28	<u>3</u> 6.1	34.2	54 55		28	38.7	35·3 28.8	22 51	
30 32	43.2 39	8.0	41 44	-15.9	30 32.1	33.6 31.8	29.0	22 57 23 02	-15.4	30 32	36.3 40.4 39.8	35.2 34.8	53 50	-15.2	30 32	32.5 32.5	29.5	23 OI OI	-15.0
34 36	44.4 40	0.0	45 43		34 36 38	34.8 42.0	32.9 40.0	22 56 45		34 36 38	42.8	31.2 37.0	54 47		34 36 38	33·4 35·3	29.5 31.2	23 00 22 57	
38 40		3.1 5.3 1.8	41 36		40	41.8 45.8	40.0 43.2	45 39		40	34·9 34·1	31.1 28.2	22 57 23 00		40	31.6 33.6	29.0	23 02 00	
42 44	47.I 44 38.8 37	1.8 7.2	37 50	-15.8	42 44	40.5 36.0	39.0 34.2	47 54	-15.3	42 44	38.3 42.2	32.3 37.3	22 54 47	-14.9	42 44	31.0 22.0	28.6 19.4	02 17	-14.7
46 48	35.2 33	1.0 3.2	54 56		44 46 48	39.0 45.1	37.6 42.2	49 41		44 46 48	47.9 47.4	43.8 40.8	37 40		44 46 48 50	20.7 25.3	18.1 22.8	19 12	
50 52	37.0 35	5.8	52		50 52	47.8 40.2	46.2 38.0	35 48		50 52	40.0 38.4	33·9 32·7	51 54		52	32.5 31.2	29.5 28.3	01 03 08	
54 56	33.2 31	0.0	55 22 58 23 03		54 56	40.2 30.8	39.I	22 47 23 02		54 56	38.4 42.8 39.5	38.8 36.8	45 49		54 56 58	28.0 26.5	24.7 24.0	08	
58	24.8 23	3.8	23 16	-15.7	58 7 00	35·5 33·4	32.3	22 56 23 00	-15.3	58 9 00	39.5 38.6 42.8	36.2 40.3	51 44	-r5.1	58	26.0 23.0	23.5 19.3	10 16	-14.6
02	34.2 33	3.2	22 56 23 02	23.7	02	39.0 32.8	34.0 28.0	22 52 23 02	25.5	02 04	43·4 44.0	41.8 41.2	42 42		02 04	26.0 29.0	22.0 25.0	12 07	
04 06 08	30.7 29 37.1 35		22 52		04 06 08	37.9	36.0	22 51 22 48		06 08	43.9 42.5	4I.5 39.0	42 45		o6 o8	30.1	25.0 20.0	06 14	
10	38.3 37	.3	50 50		10	41.5 30.2	37.0 26.0	23 05		10 12	40.9 45.9	36.5	49		10 12	27.2	23.8	09	
12 14	35.0 34		52 22 55		12 14	37.7 44.6	31.1 41.2	22 55 42 48	-15.3	14 16	49.0	43.5 44.8	39 36	-15.1	14 16	19.3	17.0	21 16	-14.7
16 18	30.9 30	.0 2	23 06 23 02		16 18	42.0 39.1	35.8 $35.3$	51		18	46.2 41.8	43.8 38.8	39 46		18	28.0	23.2	09	-14./
20 22	31.8 30	1.7 2	22 57 23 00		20 22	43.2 35.0	40.I 31.3	44 57		20 22	44.8 45.7	43·5 44·7	40 38		20 22	25.6 18.9	14.9	13 23 18	
24 26	36.5 35 36.5 36	.0 2	22 53 52		24 26 28	36.0 48.2	45.0	57 36		24 26	51.3 51.4	49·5 50·4	30 29		24 26	23.9 20.3	15.8 13.5 10.8	23	
28 30	35.7 34	.8	54 22 56 23 02	-15.7	28 30	40.3 34.8 55.8	32.8	52 59	-15.2	28 30	49.1 50.2	47.1 49.0 48.0	34 31	-15.0	28 30	17.9 21.0	15.2	27 21	-14.5
32 34	31.4 29 30.1 28	.0 2	23 02 23 04		32	45.2	39.8	24 42		32 34	50.2 53.5 53.8	52.5	30 26		32 34	24.4 17.0	19.1 12.0	15 26	
36 38	33.8 31	.0 2	22 58 54		34 36 38	38.9 56.1	34.0 51.0	52 25		36 38	52.0 48.8	48.1 44.7	30 36		34 36 38	19.0 25.1	13.1 20.9	24 13	
40	45.0 42	.3	41 58		40 42	38.9 40.5	35.2 36.1	51 49		40	44.5 45.5 45.6	39.2 40.5	44 42		40 <b>42</b>	25.1 28.5 29.3	24.3 23.3	08 08	
42 44	33.8 31 61.0 60	.8	13	-15.6	44	45.4 44.8	41.8	4I 4I	-15.1	42 44 46 48	45.6 50.6	41.0	41 32	-15.2	44 46	34.0 32.9		00 23 00	-14.2
40 48	63.0 61 44.8 44	.3	12 22 39 23 08		44 46 48	39.2	41.7 36.3	50		48	48.2 43.2	38.0 38.8	42		48	33.3	30.3	22 59 23 00	
50 52	27.0 25 19.0 18	.3 2	23 08		50	36.9 44.8	33.8 42.2	54 41		52	43.4	40.4	45 44		52	33.0	27.0	04	
44 46 48 50 52 54 56 58	22.2 2I 15.2 13 19.0 18	.6	15 27		52 54 56 58	42.8 39.8 41.3	39.4 36.8 38.0	45 49 47		50 52 54 56 58	43·3 40.7 46.6	41.2 39.6 39.8	43 46 41		44 46 48 50 52 54 56 58	31.3 33.9 36.6	27.8 30.8 33.9	23 03 22 59 54	-

Observer-R. R. T.

Observers—R. R. T. and R. W. P., who alternated from 8h 24m to 8h 38m; R. W. P. and W. J. P., who alternated from 10h 32m to 10h 42m. F. L. observed readings from 11h 06m to 12h 58m.

Chr'r time	Scale readings Left Righ	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	đ đ		۰	h m	d	d	υ,	0	h m	d	d	0 ,	0	h m	d	đ	۰,	۰
2 00 02	37.0 34. 36.3 35.	2 53	-14.2	14 00 02	15.0 16.9	11.9 13.2	22 37 34	-13.0	16 00	20.8 22.1	19.1 19.9	22 26 25	-13.1	18 00 02	51.9 54.2	51.2 52.0	22 33 31	-14.0
04 <b>0</b> 6	38.0 34. 39.4 34.			04 06	19.4	15.9 15.3	30 31		04 06	22.I 22.0	19.8	25 24		04 06	55.6 57.3	53·7 55·3	28 26	
08 10	37.1 34.	7 53		08	17.8	14.1	33		08	21.6	19.9	25 26		08	58.8 59.8	57.2	23 21	
12	40.0 36. 43.9 40.	6 43		10 12	17.7 15.9	14.3 12.4	33 35		12	16.2	19.2 14.2	34		12	61.3	59.0 60.8	18	
14 16	45.5 44. 51.2 46.			14 16	16.8 16.4	13.5 13.2	34 34	-13.0	14 16	I4.3 I4.2	12.3 14.0	37 35	-13.1	14 16	61.8	61.0 60.4	18 17	-14.1
18 20	49.9 47.	0 33		18	15.4	12.8	35		18 20	16.2	15.8 16.8	33		18 20	65.2 66.8	62.0	14	
22	75.9 71.	0 21 54		20 22	17.6	14.0 14.7	34 32		22	16.7	13.4	29 34		22	65.6	64.2 64.0	II I2	
24 26	76.7 67. 74.0 67.			24 26	14.8	13.0 13.0	36 36		24 26*	15.8 48.2	14.2 44.4	22 34 23 46		24 26	66.0 66.3	65.1 65.1	II II	
28 30	66.1 55. 68.0 58.	1 22 14		28	13.6	11.8	38	77.0	28 30	47.7 51.2	43·3 47.0	48 42	-13.1	28 30	66.0 64.3	64.8 62.9	12	T4 0
32	60.0 48.	5 24		30 32	15.0	11.2 12.1	39 36	-13.0	32	49.4	45.8	44	-13.1	32	62.9	61.7	14 16	-14.0
34 36 38	56.0 44. 57.5 46.	5 30 5 28		34 36 38	16.1 15.3	13.3 12.8	35 36		34 36 38	50.0 50.4	46.8 46.0	43 43		34 36 38	61.1 60.1	60.1 59.1	19 20	
38 40	63.1 56. 60.1 41.		1 1	38 40	15.2 16.7	12.7 14.8	36 33		38 40	54.2 52.7	49.0 48.2	43 38 23 40		38 40	59·5 58.6	58.3 57.7	22 23	
42	66.0 48.	19	1	42	19.8	16.8	29		42	38.2	33.5	24 03		42	57·3 56.8	56.3	25	
44 46 48	61.9 53. 59.9 48.	24	-13.9	44 46 48	18. I 16. I	15.3 11.7	31 36	-12.0	44 46*	25	.2b .0b	24 29 25 32	-13.2	44 46	55.8	55·4 54·3	26 28	-14.0
48 50	58.0 50. 57.0 47.			48 50	17.1 17.1	12.6 12.7	34 34		49 50*	39.8 54.7	23.0 54.2	25 22 28 39		48 50	55.6 56.1	54.3 54.8	28 27	
52	54.2 48.	29		52	18.0 18.8	14.0	33		52*	47.0	41.2 36.8	30 10		52	57.0	55.6	26	
54 56	54·5 49· 59·9 52·	7 21		54 56 58	17.2	15.0 13.7	31 34		54* 56 58	41.2 36.2	26.2	28 32		54 56	57 · 3 57 · 4	56.0 56.3	25 25	
58 00	73.0 66. Lost	22 00		58 15 00	16.2 17.2	13.0 14.0	35 33	-12.9	58 17 00*	77.7 51.7	77.0 51.2	27 19 26 48	-13.2	58 19 00	56.3 55.6	55.6 55.0	26 27	-14.0
02* 04	52.5 49. 49.8 47.		-13.5	02 04	17.8 17.9	15.0 14.9	32 32		02* 04	58.3	40.7 47.7	25 56 51		02 04	56.o	55.0	27 28	
06	60.0 51.	5 30		06	19.8	16.1	30		06	56.9 64.8	56.2	38		06	55.0 55.0	54·5 54·5	28	
10	56.8 46. 45.3 41. 36.1 28.	21 50		08	2I.2 2I.0	18.3 17.8	27 27		08* 10*	51.1 40.3	36.3 38.8	25 03 23 49		08 10	55.8 55.3	55·3 54·7	27 28	
I2 I4	36.1 28. 26.2 18.		-13.5	12 14	19.7 20.2	16.8 18.5	29 27	-13.0	12.3 14	62.7 75.0	57.6 67.1	17 23 00	-13.0	12 14	53.6 52.7	53.0 51.9	30 32	-14.0
16 18	19.6 12.	32	30.3	16 18	21.8	19.8	25	23.0	16*	45.8	30.3	22 55		16	51.6	51.0	33	-14.0
20	13.0 7. 15.8 10.	37		20	22.8 23.4	20.8 21.8	23 22	:	18 20	50.0 45.8	36.3 43.7	. 46 44		18 20	52.2 52.3	51.2 51.6	33 33	
22 24	20.8 14. 18.1 12.			22 24	23.I 23.I	21.2 22.0	23 22		22 24	45.2 46.9	34.9 36.9	51 48		22 24	51.5 51.1	50.9 50.3	34 34	
26 28	15.0 10. 12.8 9.	2 38		26 28	23.8 26.0	22.8 24.0	21 18		26 28	48.0 46.5	38.8 38.2	46 48		26		50.6	34	
30	12.8 9.	1 41	-13.4	30	26.8	24.3	18	-13.0	30	47.0 48.2	39.2	46	-13.3	28 30	51.4 51.2 51.6	50.0 51.0	35 33	-14.0
32 34	12.0 7. 12.8 9.	2 40		32 34	29. I 29. I	26.0 26.7	I4 I4		32 34	48.2 47.4	41.7 40.8	44 45		32	51.8 51.9	51.1 51.3	33 33	
34 36 38	12.3 7. 11.1 6.	2 42 3 44		36 38	28.4 28.0	26.2	15 15		34 36 38	47 · 4 47 · 7 48 · 1	41.8	44		34 36 38	51.3	50.7	34	
40	12.1 7.	42		40	29.0	28.0	13		40	48. I	43.I	43 43		40 42	57·3 55·9 56·3	56.8 53.1	24 28	
42 44	12.8 9. 12.7 9.	41	-13.2	42 44	31.8	29.9 30.0	09 10	-13.1	42 44	49.1 48.9	44.7 44.2	40 41	-13.8	42	55.2	52.7 52.2	28 30	-14.2
44 46 48	13.0 8.	5 4I		44 46 48	30.7 27.9	27.2	12 15		44 46 48	45.9 47.2	44.2 46.0	44 41		44 46 48	57·3 57.6	54·3 54.8	26	F
50	11.0 7.	43		50	28.2	25.8	15		50	47.8	45.9	41		50	57 · 3	54.8	26 26	
52 54	12.2 9.	41		52 54	26.8 25.8	25.0 24.2	17 18		52 54	46.7 47.3	45.0 46.3	42 41		50 52 54 56 58	57.0 53.3	53, I 50.0	28 33	
50 52 54 56 58	11.9 8.:			54 56 58	24.5 21.9	23.5	20 24		54 56 58	47·3 50·7 52·0	49.6 51.0	35 33		56	53.4 53.0	50.5 50.6	32 33	

Observers-F. L. to 12h 58m; W. J. P. to 13h 20m, and R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedı	nesday, Nove	mber 4,	1903		Ma	gnet s	cale inv	erted	Thur	sday, 1	Novem	be <b>r</b> 5, :	1903		1	Magne	t scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	Sca read	ings	Last decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d d	0 ,	, •	h m	d	đ	o ,	0	h m	đ	d	0 /	•	h m	đ	đ	. ,	0
02	54.8 52.4 55.3 53.0	29	-14.4	22 00 02	59.8	59.0 58.2	22 2I 2I	-15.0	16 00 02	43.2	56.3 56.1	22 33	-18.o	18 00	52.9 51.8	53·4 52·7	22 38 37	-15.0
04 06 08	55.3 53.0 54.8 52.8	29	,	04 06 08	60.5	59.0 58.9	20 20		04	47.8 47.8	49.8 49.7	31 31		04 06	51.9	52.7 53.3	37 38	
10	54.7 52.3 53.2 51.2	32	•	10	60.3	58.6 59.2	2I 20		08	49.2	50.8 49.8	33 31		08	49.0	50.2	33 30	
14	55.6 52.6 52.6 50.3	33	-14.4	12 14 16	59.5 56.5	57.2 54.2	23 27	-15.0	12 14	49.0	50.7 46.8	33 27	-18.o	12 14	48.2 50.8	49.0 51.2	31 35	-14.
16 18	53.0 51.0 52.0 50.2	34	1	18	52.0 54.8	51.1 50.6	33 31		16.2 18	46.9	47·4 48.5	28 30		16	52.4 48.2	52.8 49.1	37 31	
20 22	52.2 50.9 53.6 51.6	31		20 22	57.9 66.3	49.2 58.1	30 16		20 22	49.2 51.4	50.7 53.3	33 37 38		20 22	47·7 45·0	48.0 46.0	30 26	
24 26	55.2 53.4 51.6 50.0	34		24 26	59.8 62.9	51.3 54.9	27 22		24 26	52.8 53.8	54.0 55.0	40		24 26	43.8 39.5	45.2 39.7	25 17	
28 30	57.6 56.3 58.6 57.3	23	-14.5	28 30	64.2	57.6 58.0	19	-15.0	28 30	51.7 48.2	52.8 50.1	37 32	-17.4	28 30	33.0	33.2	07 15	-14.
32 34	59.1 57.4 58.1 56.8	24		32 34 36.1	65.8	59.0 60.6	16 14		32·5	49.8	53.2 52.8	36 35		32 34.2	37.2 35.6	37.8 36.0	14	
34 36 38	57.3 55.6 56.9 55.6	26		38	66.3	60.7	15		34 36 38	50.7	53.0 52.4	35 36 36		36 38	39.3 38.6	40.I 39.7	17 16	
40 42	55.2 54.0 54.8 53.4	29		40 42	67.6	61.3	13		40 42	48.8	50.2 51.7	32 34 36	77.0	40 42	39.9 41.8	40.6 42.5	18	
44 46 48 50 52	53.3 52.3 53.0 52.0	32		44 46 48	66.8	60.3	14 15	-15.0	44 46 48	51.0 51.9	52.9 54.8	38	-17.0	44 46 48 50 52	41.5	43.0 43.3	2I 22	-14.
48 50	55.8 54.6 54.3 53.3	30		50	65.1	60.0 56.7	16 21		50	51.2	53.8 53.9	38		50 50	42.5	43.7	22 23	
52 54	53.9 53.0 52.5 51.3	33		52 54 56	59.8 57.8	54.8 52.3	24 28		52 54	53.0	55.0 52.2	39 35		52 54	42.6 40.8	43.8 42.2	22 20	
54 56 58	51.7 50.8 50.2 49.5	36		58	55.1	50.0	31 32 38		54 56 58	49.7	51.1 49.1	34 31 28	-6 -	54 56 58	41.4	43.I 45.4	21 24	
02 02	49.4 48.7 50.3 49.9	35		23 00 02	50.8	45.7 42.8	44	-15.0	17 00 02	46.3	47.8 49.2	31	-16.5	19 00	44.0 45.1	46.0 47.3	25 27	-14.
04 06	51.6 50.8 52.6 52.0	32		04	39.0	36. I 33. 6	53 57		04 06 08	48.4	49.2 49.8	31 32		04 06 08	47.0 47.6	48.0 50.0	29 31	
08 10	52.1 51.3 52.3 51.8	32		08 10	37.8 37.8	32.4 33.0	59 59		10	50.8	51.8 50.2	35 33		10	52.2 49.4	55.I 52.8	39 35	
12 14	52.9 52.3 52.1 51.7	33	-14.8	12 14	39.5	34·9 37·7	56 52	-15.0	12 14	49.2 52.2	49.4 52.8	32 37	-16.o	12 14	47.5 45.1	49.6 43.2	31 24	-14.
16 18	52.2 51.6 52.2 51.6	33		16 18	44.8 48.3	40.9 43.9	47 42		16 18	50.I 48.2	52.0 50.2	35 32		16	43.I 43.I	46.0 46.1	25 25	
20 22	52.2 51.8 52.8 52.2	32 32		20 22	47.2 50.3	44.8 49.3	42 36		20 22	47.1 48.9	49.3 50.8	30 33		20	42.4	45.I 44.0	23 21	
24 26	52.0 51.5 51.0 50.5	33 34		24 26	58.4 59.1 60.9	55.0 55.3 56.8	25 24		24 26	49.2 48.8	51.9 50.2	34 32		24 26	37.2 41.1	40.4 42.9	16 21	
28 30	50.7 50.1 50.6 49.9	35	-15.0	28 30	63.9	60.2	22 17	-14.9	28 30	47.2 48.7	48.7 49.7	30 32	-15.1	28 30	36.0 42.0	37·9 43·6	13 22	-14.
32	52.7 52.0 55.0 53.3	32 29		32 34	52.9 61.1	51.0 56.2	33 22		32 34	49.6 50.1	51.9 52.2	34 35		32 34 36	43.4 43.1	44.8 44.9	24 24	
34 36 38	53.6 51.9 53.0 51.4	31		36 38	71.6 74.5	68.2 71.3 68.0	00		34 36 38	50.8 51.9	52.8 53.8	36 38		38	43.2 45.3	44.8 47.0	24 27	
40 42	52.5 51.1 53.3 52.2	33 31		40 42	69.7 71.3	67.8	06 05		40 42	52.1 52.1	54.0 54.2	38 38		40 42	46.0 45.3	47·5 46.6	28 27	
44 46	56.0 54.9 56.5 55.6	27 26	-15.0	42 44 46 48	72.0 68.1	69.0 64.5	03 10	-15.0	44 46 48	52.3 54.1	54.8 54.9	39 40	-15.5	44 46	45.6 44.9	47.0 45.6	27 26	
48	56.0 56.0	25 25		50	67.2 68.7	65.2 67.3	10 07		48 50	54.6 54.3	55.1 55.3	41 41		48 50	42.0 43.0	42.9 44.3		1
52	57.2 56.3 58.4 57.5 58.8 58.0	23		52	68.0 66.2	66.4 65.7	09		50 52 54 56 58	53.9 53.2	54.7 54.0	40 39		52 54 56	42.9 41.4 41.8	44·3 42·5	20	
44 46 48 50 52 54 56 58	58.5 58.0 60.0 58.3	23 21		54 56 58	64.5	62.9 63.8	14 13		56 58	53.2	53·9 53·4	39		56 58	41.2	42.9	2I 2I	-13.
50	JU.U JU.J			24 00	65.0	63.3	13	-15.0			•			20 00		40.8		

Correction to local mean time is + 2m 50s. 90° torsion = 27.'9. Torsion head at oh oom read 315° and at 24h 21m read 310°. Observers—W. J. P. and R. R. T., who alternated from 22h 06m to 22h 16m.

Correction to local mean time is + 5m IIs. 90° torsion = 27.'9. Torsion head at 15h 20m read 355° and at 20h 16m read 350°. Observers—R. R. T. and W. J. P., who alternated from 18h 22m to 18h 36m.

Frida	y, November	6, 1903			Ma	gnet so	cale inve	erted.	Sund	ay, Novembe	r 8, 190;	3		Mag	net scale	erect
Chr'r	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Righ	East decli- nation	
h m	d d	0 /	٥	h m	d	d	• ,	۰	h m	d d	. ,		h m	đ đ		•
20 00 02	45.2 44.1 43.0 41.6 38.2 36.7	22 22 26	-17.3	22 00 02	47.2 46.9	46.8 44.9	22 30 32	-15.5	0 00*	41.4 47.8 41.8 47.6	22 28 29	-19.8	2 00	49.2 49.4 49.4 50. 50.8 51.	36	
04 06 08	38.2 36.7 42.8 40.0 44.0 42.0	33 27 25		04 06 08	47.2 48.8 49.8	45.2 46.8 47.9	32 29		04 06 08	40.0 45.8 43.5 49.3 47.8 52.8	26 31		04 06 08	50.8 51.5 50.3 51.6 51.3 52.6	38	
10 12	39.7 36.8 39.1 37.7	32 32		10 12	49.1 49.7	47.6 48.0	27 28 27		10 12	48.0 53.3 47.3 52.0	37 38 36	-19.4	10 12	52.2 52.0 51.0 51.0	41	
14 16	37.I 35.0 35.8 34.9	35 37	-17.0	14 16	47.8 46.8	46.1 43.7	30 33	-15.3	14 16	50.2 54.0 50.5 55.0	40 41		14 16	50.3 50.9	38	-17.3
18 20	33.3 <i>b</i> 34.8 34.1	40 38		18 20	45.1 45.2	42.6 43.7	35 34		18 20	53.8 57.8 59.0 62.0	46 53 48		18 20	49.0 49.8 49.8 50.8	37	
22 24 26	31.8 29.5 25.0 22.2 30.8 28.0	44 55 46		22 24 26	45.2 45.7	42.7 42.8	35 35		22 24 26	55.6 58.2 53.6 56.6 51.8 54.5	48 45 42		22 24 26	52.0 52.8 52.4 52.8 52.4 53.1	41	
28 30	32.8 29.1 33.0 28.9	43 43	-17.0	28 30	45.7 45.3 44.2	43.2 43.0 42.1	34 35 36	-15.0	28 30	51.8 54.5 49.7 52.3 47.3 50.2	39 35	-19.0	28 30	54.7 55.7 54.3 55.0	45	-17.1
32 34 36	37.8 30.0 36.7 34.2	39 37		32	43.8 41.8	40.5 38.6	38 41		32 34 36	47.I 49.0 51.I 53.5	34 41 38	1	32 34 36	52.5 53.5 51.2 51.6	42 39	
38	35.0 33.0 34.9 33.8	39 38		34 36 38	42.2 45.1	39·3 42·9	40 35		38	49.3 51.6 51.7 53.3	41		38	52.3 52.9 53.8 54.3	41 43	
40 42 44*	27.2 20.6 27.2 18.0 56.1 49.8	54 22 56 23 23	-16.8	40 42	44.9 44.2 40.9	42.2 41.9 38.1	36 37 42	-14.8	40 42	52.4 54.5 52.0 53.6 52.3 54.1	42 41 42	-18.6	40 42	54.3 54.6 54.7 55.3 57.0 58.0	45	-17.0
44* 46* 48	41.8 25.0 31.2 16.3	22 50 23 06	-10.0	44 46 48	41.2 42.2	37.4 37.6	42 42 41	-14.0	44 46 48	52.3 54.1 50.3 52.5 50.5 52.4	39 39	-10.0	44 46 48	58.1 59.3 59.4 60.3	51	-17.0
50 52	32.0 17.2 30.2 15.7	04 07		50 52	45.1 45.0	40.2 40.2	37 37 38		50 52	49.6 50.8 54.0 56.2	37 45		50 52	60.6 62.2	55 22 58	
54 56*	32.I 15.2 57.8 41.7	06 24		54 56 58	44.7	40.2 39.2	39		54 56 58	52.9 54.I 52.9 54.8	42 43		54 56 58	65.2 66.8 66.9 68.1	23 02	
58 21 00 02	70.6 57.0 78.2 65.3 67.7 52.7	23 02 22 49 23 07	-16.3	23 00	43.3 42.9 42.2	39.2 39.1 38.9	39 40 40	-14.7	T 00	52.4 53.8 53.4 54.9 57.6 58.6	42 43 50	-18.2	3 00 02	67.3 68.9 67.8 69.0 69.1 70.0	0,6	-16.9
04 06*	67.6 56.0	23 05 22 45		04 06	42.3 41.8	39.I 38.2	40 41		04 06	55.6 56.8 60.5 61.8	47 54		04 06	71.0 72.5 72.3 73.3	II	
08 10	42.I 33.3 44.0 36.6 51.7 41.0	41 31		08 10	41.2 41.3	38.0 38.0	42 42		08 10	62.3 63.5 58.6 59.3	57 51		08 80	73.0 73.6 74.0 74.6	14 15	,
12 14 16	44.7 35.2 48.2 37.7 33.9 26.2	41 37	-16.0	12 14 16	42.3	39.0	40 41	-14.7	12 14 16	56.9 57.9 57.0 58.5 61.4 63.7	49 49	-18.2	12 14	74.8 75.6 75.0 75.8	17	-16.6
18 20	46.0 30.4 40.5 28.1	57 44 50		18	43.7 43.7 43.2	40.7 40.8 41.2	41 38 38 38		18	61.4 63.7 62.4 64.8 64.6 66.2	57 22 58 23 01		16 18 20	74.4 75.6 73.5 74.2 75.6 76.3	14	
22 24	47.I 36.3 53.7 43.2	39 28		22 24	45.4 43.8	43.0 41.1	35 38		22 24	66.8 67.8 65.1 67.2	04 23 02		22 24	70.9 71.8   69.8 70.3	11	
26 28	49.0 40.5 48.7 41.8	34 33	0	26 28	41.8 40.8 40.8	39.5 38.7 38.9 38.2	40 42		26 28	60.3 61.3 61.6 62.6	22 54 56		26 28	66.9 67.2 61.8 62.9	23 04 22 56	
30 32	57.1 50.4 53.0 45.0 45.0 36.0	20 27 40	-15.8	30 32	41.2	38.2 38.1	42 42 42	-14.6	30 32	58.6 58.9 58.0 58.9 58.8 59.2	51 50	-18.0	30 32	60.5 61.2 57.0 58.2	49	-16.5
34 36 38	31.0 29.3 26.2 24.0	22 57 23 05		34 36 38	41.4 41.8 41.7	38.2 37.8	41		34 36 38	58.8 59.2 50.6 52.0 48.9 49.7	51 39 36		34 36 38	58.7 60.1 59.3 61.0 58.2 60.0	53	
40 42	27.1 24.8 18.2 13.8	03 19		40 42	41.7 43.8 43.1	39.9 40.7	42 38 38		40 42	53.4 54.6	43 45		40 42	57.5 58.8 58.9 59.9 60.9 61.8	50	1
40 44 44 46 50 54 55 58	14.6 9.6	27 25	-15.6	44 46 48 50	44.0 44.2	41.0 39.8	37 38	-14.6	40 42 44 46 48	53.6 54.3 52.8 53.5	43 42	-17.9	44 46	63.6 64.8	52 55 59	-16.5
50 52	23.3 20.3 22.2 20.9 17.0 15.2	10 10 23 19		50 52	43.3 43.2 42.7	39.2 39.4 38.7	39 39 40		40 50 52	52.0 <i>b</i> 50.0 <i>b</i> 50.0 50.2	40 37 37		44 46 48 50 52 54* 56 58	63.2 64.6 62.6 63.4 61.6 62.2	. 58	
54 56	32.2 29.4 42.2 4I.0	22 56 39		52 54 56 58	41.3 41.8	37.7 39.8	42 40		54 56 58	54.0 54.4 56.3 56.9 51.1 52.3	37 44 47		54* 56	51.3 52.6 54.3 56.3 52.9 55.0	22 57 23 02	
58	45.8 45.0	33		58 24 00	42.I	40.8 40.1	39 40	-14.5	58	51.1 52.3	40		58	52.9 55.0	00	

Observer-R. R. T.

Observer-W. J. P.

Correction to local mean time is + 5m 36s.

Torsion head at 19h 40m read 350° and at 24h 20m read the same.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Sund	ay, Novembe	er 8, 190	93		Mag	gnet s	cale inv	erted	Mone	day, No	ovembe	er 9, 190	93			Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	Sc. read Left		East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Tem C.
h m 4 00	d d Magnet			h m 6 oo	d 50.1	d 46.3	23 06	-I5.3	h m 8 oo	d 45.8	d 47.5	° ,	-26.2	h m	d 42.3	d 44.8	。 , 22 36	-22.0
02	inverted 49.0 48.0	23 06	-16.2	02	55.2 52.8	50.0	22 59		02 04	45·5 43·5	46.0 44.0	37		02 04	42.1 42.8	46.1 46.2	37 38	
04 06	47.5 46.5 48.1 46.2	80 80		04 06	52.8 53.1	47.8 49.4	23 03 02		06 08	42.3 45.5	43·3 47·3	35 41		06 08	44.0 43.2	47.0 46.0	40 38 38	
08 10	49.0 47.6 48.1 46.3	o6 o8		08 10	51.0 49.9	48.2 48.0	04 23 05		10 12	49.9 46.3	50.6 47.8	47 42		10 12	42.8 44.3	46.2 46.3	38	
12	46.2 44.2	11		12	57.I	54.0	22 55		14	47 · 4	50.3	45	-25.1	14	42.0	43.9	39 36	-21.
14.3 16	46.2 43.1 43.0 39.8	I2 I7	-16.o	14 16	54.8 52.1	52.9 49.2	22 58 23 03	-15.2	16 18	54·5 56.3	57.0 57.6	56 57		16 18	42.2 42.9	44.7 45.8	36 38 38	
18	40.3 36.1	22		18	48.0	46.1	23 03		20	50.9	53.0	50		20	42.9	45.7	38	
20 22	45.8 42.6 48.4 46.0	08		20 22	42.9 41.9	41.1 39.5	16		22 24 26	44·3 42·3	48.3 44.8	41 36		22 24 26	40.7 40.7	43.0 42.7	34 34	
<b>2</b> 4 <b>2</b> 6	53.1 50.3 50.8 48.1	01 05		24 26	43.8 52.4	41.8 51.8	23 00		26 28	43.8 45.3	45·4 47·3	38		26 28	41.2 44.0	42.9 45.0	34 34 38	
28	52.8 49.5	02		28	57.0	55.1	22 53		30	48.7	51.0	41 46	-24.4	30	42.4	43.9	36	-21.
30 32	46.9 45.7 44.7 43.2	09 13	-15.8	30 32	52.8 47.7	50.2 44.6	23 OI IO	-15.2	32 34	51.5 46.1	54·5 47·7	51 42		32 34	38.6 39.3	44.I 42.2	33 32	Í
34	47.7 45.5	09		34	37.6	34.8	25		34 36 38	43.8	46.0	39		34 36 38	41.2 45.0	43.0	34	
34 36 38	48.0 46.2 50.6 49.1	08 04		34 36 38	41.3 46.9	37.8 45.9	20 09		40	39.7 40.8	42.3 42.8	33 34		40	42.3	47.1 46.2	40 38 38	
40 42	46.3 45.3	10		40	45.0	44. I	12		42	44.3 43.8	45.9 44.4	39 37	-24.0	42	42.7 44.0	45.8 46.0	38 39	-21.
4 <u>2</u> 44	48.3 47.1 43.8 41.8	07 15	-15.7	42 44	45.0 49.3	42.3 47.7	14 06	-15.2	44 46 48	47	.5a	43	24.0	44 46 48	45.2	46.2	40 38	
44 46 48	45.5 43.7	I2 II		46 48	52.2 52.0	50.0 50.1	02 02		48 50	51.3 56.3	52.0 56.3	49 56		48 50	44.0 42.2	44.8 43.2	35	
50	41.1 38.6	20		44 46 48 50 52	49.8	47.I	<b>o</b> 6		50 52	49.5 43.8	56.3 49.8	49 56 46 38		52	40.4 40.2	42.0 41.7	33	
52 54	40.0 36.7 39.8 37.2	22 22		52 54	49.2 49.7	46.8 48.2	07 05		54 56 58	47.5	44·7 49·3	44		54 56	40.9	42.8	32 34	
50 52 54 56 58	38.2 35.5	24		54 56 58	47.2	44.8	10		58 9 00	51.4 49.1	52.5 51.3	50	-23.5	58 11 00	41.6	42.9 43.9	34	-20.
5 00	33.2 31.2 38.1 36.1	32 24	-15.7	7 00	51.7 48.3 44.8	49.1 46.1	03 08	-15.2	02	50.0	51.6	47 48	25.5	02	42.0	44.7	35 36	
02 <b>0</b> 4	40.8 38.0 39.7 37.2	20 22		02 04	44.8 49.1	42.3 48.5	14 05		04 06	44.0 41.0	46.0 42.3	39 34		04 06	42.2 44.1	44.9 46.3	36 39	
<b>o</b> 6	41.2 38.2	20		06	47.8	45.7	09		о8	43.0	44.3	37		08	43.8	45.7 45.8	39 38 39	
08 10	39.1 36.9 39.8 38.4	22 21		08	49.7 44.4	48.4 44.2	05 I2		I0 I2	40.1 36.8	41.5 37.3	32 26		12	44.2 44.3	46.0	39	
12	41.8 40.8	17	77.6	12	45 40.8	.8 <i>a</i> 40.8	10	-15.2	14 16	45·4 50.2	47·3 50.8	41 47	-23.1	14 16	43.0 43.0	46.0 46.0	39 38 38	-20.
14 16	45.2 42.2 44.1 41.1	13 15	-15.б	14 16	39.8	39.2	20	-15.2	18	47.6	48.9	44		18	43.9	47.2	40 38	
18	44.8 42.1	14 11		18 20	4I.I 4I.2	39.2 40.2	19 18		20 22	43.5 38.1	44.6 39.6	37 29		20 22	43.0 42.1	46.1 45.0	38	
20 22	46.9 43.1 42.2 38.3 34.8 32.8	19		22	46. I	45.6 48.8			24	42.9	43.3	36		24 26	41.8	45.5 46.4	37	
24 26	34.8 32.8 33.0 31.9	29 31		24 26	51.0 53.0	48.8 51.2	23 04 22 59		26 28	45·3 44.6	45.6 44.9	39 38 38		28	43.8 45.5	48.2	39 41	
28	33.8 33.2	29		28	53.8	52.5	59 56	15.0	30	44.3 46.6	44.3	38	-22.8	30	44.2 42.9	47·3 46.5	38 38	-20
30 32	36.0 34.2 41.8 39.8	29 27 18	-15.5	30 32	53.9 53.8 56.5 58.0	53·3 56.5	52	-15.2	32 34	46.3	47.3	42 42		32 34 36	42.9 42.8	46.2	38	
34	41.0 39.3	19		34	53.I	52.7 58.7	59		34 36 38		. 3a	35 37		36 38	42.8 42.3	46.2 46.2	38 38 36	
34 36 38	41.7 38.6 44.8 41.8	19 14		34 36 38	59·5 53·7	51.7	49 59 <b>2</b> 2 58		40	45.3	46.0	40		40	41.7	44.8	36	
40	40.3 40.1	07		40 42	54·3 51.8	53·3 50.7	22 58 23 02		42 44	44.0 43.1	45.0 44.4	38 37	-22.5	42 44	40.9 39.1	43.9 41.7	35 32	-20
42 44	46.3 42.7 37.8 34.3	12 26	-15.4	4 <u>2</u> 4 <u>4</u>	51.6	50.8	02	-15.2	46	45.I	46.2	40		44 46 48	39.8	42.0	32	
42 44 46 48	41.8 38.5	19		44 46 48	50.8 53.0	49.2 52.0	23 04 22 59		48 50	47.0 45.6	48.3 45.6	43 40		50	40.7 38.2	42.0 40.4	33 30	
40 50	46.8 42.2 42.3 38.1	12 19		50 52	50.8	50.I	23 03		44 46 48 50 52 54 56 58	41	.6a	34 56		52	38.8	40.6 38.9	30	ı
52	40.8 36.7	21 18		52 54	51.1 55.7	49.0 52.9	23 04 22 57		54 56	50.0 46	56.3 .8b 39.6	50 42		54 56	36.1 36.9	30.9 39.8	28	
50 52 54 56 58	37.3 33.2.	27	and the second	54 56 58	51.5	48.I	<b>2</b> 3 04		58	38.5	39.6	29		58 24 00	37.8 40.3	40.9	30	•
58	41.8 35.7	21	Į,	58 8 00	55·3 53·2	53·5 50.8	22 57 23 00						1	24 00	40.3	43.2	34	

Correction to local mean time is + 7m 12s. 90° torsion = 27.6. Torsion head at oh oom read 351° and at 9h 15m read 354°. Observers—W. J. P. and R. R. T., who alternated from 4h 06m to 4h 16m.

Correction to local mean time is +2m 34s. Torsion head at 7h 20m read 356° and at 12h 30m read the same. Observers—W. J. P. and R. R. T., who alternated 9h 56m to 10h 04m.

Tueso	day, Novemb	er 10, 19	903		Ma	ignet s	cale inv	erted	Wedi	nesday, Nove	mber 11	, 1903			Magne	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp.
h m 12 00 02 04 06 08 10	d d 54.9 53.9 54.0 52.8 56.7 55.1 56.7 55.2 56.6 55.1 51.2 50.2	° ', 22 20 21 18 18 18 26	-26.0	h m 14 00 02 04 06 08 10	d 37.7 39.9 37.8 35.4 31.3 28.8	d 34.7 37.2 35.0 33.3 30.0 26.8	45 48 51	-23. I	h m 0 00* 02 04 06 08 10	d d 38.0 38.8 38.5 39.8 41.5 43.1 37.0 39.2 43.0 44.3 40.4a	22 54 22 55 23 00 22 54 23 02 22.57	-26.0	h m 2 00 02 04 06 08 10	d 32.4 35.1 35.3 36.3 36.3 38.0	d 35.6 39.6 40.1 40.1 39.3 40.9	22 48 53 53 54 54 22 56	-23.0
12 14 16 18 20 22 24 26	51.7 50.1 59.8 48.0 48.8 48.1 50.5 49.1 46.0 44.3 47.4 46.2 50.8 48.8 48.8 47.6	25 28 29 27 34 32 27 30	-25.9	12 14 16 18 20 22 24 26	32.8 32.8 32.0 36.3 36.3 35.8 35.3	30.6 31.2 31.2 34.8 35.0 34.5 33.6	22 55 55 55 49 49 50 51 52	-22.7	12 14 16 18 20 22 24 26	34.0 34.0 37.0 38.3 37.3 38.7 43.0 44.8 50.2 52.5 43.3 47.6 44.0 48.8 44.5 49.3	47 53 22 54	-25.5	12 14 16 18 20 22 24 26	41.3 44.6 48.1 51.6 55.0 62.0 61.5 60.1	43.9 46.5 49.8 54.0 57.1 63.8 64.3	23 01 06 11 17 22 33 33	-23.0
28 30 32 34 36 38 40 42	45.4 44.3 47.8 47.0 49.1 46.4 47.3 43.9 45.1 43.1 44.9 41.8 44.0 41.2 41.9 39.8	35 31 30 34 36 37 38	-25.4	28 30 32 34 36 38 40 42	35.6 33.3 33.0 37.2 40.6 42.3 41.0 39.5	34.3 32.0 31.5 35.5 39.5 41.3 40.0 38.2	50 54 55 48 42 40 42	-23.0	28 30 32 34 36* 38* 40*	44.9 48.0 44.9 47.8 46.0 47.3 60.0a 21.5 28.0 61.0 65.5 37.0 42.3 10.2 12.6	07 06 07 23 28 24 11 23 36 57 13	-24.8	28 30 32 34 36 38 40 42*	64.3 56.5 54.6 60.5 62.2 64.6 73.1 62.0	66.7 59.2 55.6 62.6 64.4 68.5 74.3 66.3	37 25 21 31 34 39 23 50 24 06	-22.6
44 46 48 50 52 54 56 58	43.7 4I.4 44.0 42.0 43.0 39.9 42.I 37.3 46.3 40.7 44.7 39.0 42.2 37.0	38 38 40 43 37 40 43	-25.0	44 46 48 50 52 54 56 58	38.1 38.5 41.3 40.0 39.0 39.5 39.0	37.3 38.0 40.7 38.8 38.6 38.6 38.3	44 46 45 41 43 44 45 46	-23.0	44 46 48* 50 52 54 56	37.0 45.0 48.1 54.7 49.5 53.7 43.3 53.3 61.5 77.0 73.0 78.0 14.0 26.6	23 59 24 15 22 54 22 49 23 22 23 32 22 05	-24.3	44 46 48 50 52 54* 56	65.0 64.0 59.3 49.8 50.6 61.1 37.9	69.8 69.3 69.7 54.3 58.0 70.0 48.2	11 10 24 06 23 47 23 50 24 25 23 50	-22.5
13 00 02 04 06 08 10	42.8 37.3 41.8 36.3 41.1 34.8 41.8 35.6 41.6 35.9 41.7 36.0 39.1 34.2 40.0 35.1	42 44 46 44 44 44 48 46	-24.5	58 15 00 02 04 06 08 10	38.0 37.3 38.4 41.0 42.0 38.7 38.4 38.6	37.6 36.6 37.9 40.8 40.8 37.7 37.4	47 45 41 40 45 46 46	-23.2	58 1 00 02 04 06 08 10	34.2 50.9 56.0 58.3 34.6 38.6 72.8 78.5 36.5 38.8 26.5 29.3 53.0 55.5 75.0 75.0	22 40 23 03 22 31 23 32 22 33 17 22 59 23 31	-23.8	58 3 00* 02 04 06 08 10* 12	59.0 43.8 59.8 37.7 66.1 57.0 64.3 61.5	65.9 58.3 72.0 45.4 71.9 62.3 73.6 71.1	24 20 24 45 25 09 24 31 25 14 24 59 25 49 25 45	-22.3
14 16 18 20 22 24 26 28	39.7 34.9 42.7 35.6 44.8 38.2 45.9 40.0 45.1 39.5 46.7 40.6 48.3 42.3 47.0 43.5	47 44 40 38 39 37 34 34	-24.I	14 16 18 20 22 24 26 28	37.9 37.2 38.6 40.8 46.9 47.1 48.0 48.6	37.3 36.5 37.8 39.8 46.0 46.5 47.7 48.1	46 47 45 42 32 32 30	-23.2	14 16 18 20 22 24 26	36.3 36.8 31.6 33.0 36.0 41.5 32.3 33.3 28.8 30.2 22.7 24.3 18.8 22.2	22 31 24 34 25 20 10 06	-23.6	14 16* 18 20* 22 24 26	23.0 33.0 53.0 33.2 25.0 34.0 54.0	32.5 44.5 61.3 52.0 43.3 38.9 56.3	24 45 01 24 30 25 04 24 50 24 54 25 23	-22.3
30 32 34 36 38 40	45.9 4I.3 42.I 39.8 37.6 35.2 36.I 34.0 33.9 33.I 35.I 34.0 32.I 30.I	37 41 48 50 53 51 56	-23.9	30 32 34 36 38 40 42	50.9 49.9 46.8 46.0 44.3 43.4 42.7	50.3 48.8 45.4 44.9 43.1 42.6 42.3	29 26 28 33 34 37 38 38	-23.3	28 30 32 34 36 38 40 32	21.5 23.9 22.8 24.6 24.9 28.1 25.4 28.4 33.3 36.5 18.2 19.8 17.8 20.2 0.0 2.3	09 11 15 16 28 03 22 03 21 35	-23.4	28 30 32.3 34 36 38 40 42	40.6 32.5 15.5 9.7 17.2 9.6 17.7 18.	45.2 32.5 15.5 10.0 19.0 10.1 20.6	25 04 24 48 21 12 25 12 27 24 26	-22.0
44 46 48 50 52 54 56 58	30.0 28.6 29.1 25.2 27.5 23.7 27.1 22.6 29.0 25.0 32.7 27.9 36.6 32.6 36.3 33.0	22 59 23 03 05 06 23 03 22 58 51 51	-23.7	44 46 48 50 52 54 56 58 16 00	41.1 39.9 36.7 36.3 37.6 40.7 40.7 40.1 39.5	40.3 38.9 36.3 35.7 38.4 40.4 40.0 39.8 39.1	41 43 48 49 46 42 42 43	-23.5 -23.4	44* 46 48 50 52 54 56 58.3	25.6 26.6 24.0 25.6 26.0 27.3 27.3 28.9 23.7 24.3 23.3 24.3 23.4 25.3 27.6 31.6	22 35 33 36 38 32 32 32 41	-23.2	44* 46 48 50 52 54 56 58	45.0 47.0 56.5 50.0 49.8 42.7 45.6 53.3	52.6 53.8 66.5 58.6 56.3 48.9 55.2 57.3	23 52 23 55 24 12 24 01 23 59 48 23 55 24 02	-22.0

Correction to local mean time is + 3m obs.
Torsion head at 11h oom read 356° and at 16h 20m read the same.
Observers—R. R. T. and W. J. P., who alternated 13h 56m to 14h обт.

Observer-W. J. P.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

hr'r ime	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scread:	_	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Tem C.
00 02 04 06	d d 63.0 68.6 63.7 68.7 55.0 58.3 39.1 44.2	24 19 19 24 04 23 41	-22.0	h m 6 oo 02 04 06	d 34.2 45.1 54.2 53.2	d 35.9 47.5 55.8 55.7	22 40 22 57 23 11	-20.I	h m 8 00 02 04 06*	d 20.7 20.8 13.2 42.1	d 22.1 23.2 17.1 50.9	22 30 31 20 07	-19.0	h m 10 00 02 04 06	d 46.8 46.8 47.6 50.6	d 48.0 48.0 48.3 51.3	0 , 22 42 42 43 47	-19.5
08 10 12 14 16 18	41.3 43.2 36.8 37.2 45.6 46.1 44.8 47.7 42.4 48.3 39.2 44.7	42 34 48 48 47 41	-21.9	08 10* 12 14 16	49.8 27.3 21.2 34.6 38.2 34.0	53.7 46.2 39.9 51.1 58.2	23 06 22 54 22 44 23 03 12	-20.0	08 10 12* 14 16 18	48.9 63.7 51.7 50.2 47.2 59.1	58.9 73.3 57.7 55.3 54.3 64.2	19 42 53 50	-18.8	08 10 12 14 16	50.1 49 44.0 42.6 41.3 36.0	50.5	47 46 44 39 35 33 27	-19.0
20 22 24 26 28	45.9 54.2 49.2 54.5 30.2 34.8 21.1 25.3 15.1 21.7	54 57 27 12 05 16		20 22 24 26 28	30.2 25.9 32.2 32.6 30.8	45.8 41.8 45.0 44.3 43.5	49 57 57 55		20 22 24 26 28	52.6 56.1 60.9 66.5 63.7 58.8	57.4 60.2 65.8 70.2 67.2 61.5	22 54 22 59 23 07 14 10	-18.7	20 22 24 26 28 30	39.8 41.0 37.0 40.6 48.1 46.3	44.2 45.3 41.0 42.8 50.5 48.3	33 35 29 33 45 42	-19.
30 32 34 36* 38 40	24.4 27.2 37.2 42.7 30.3 36.8 44.1b 24.9 25.2 20.2 20.9	38 23 28 22 42 12 04	-21.4	30 32 34 36 38 40	14.2 14.2 26.9 31.6 39.9 36.4	25.2 24.7 36.8 44.6 49.4 47.3	27 27 46 22 56 23 06 02	-19.8	30 32 34 36 38 40	57.7 52.1 48.2 51.3 57.2	60.9 55.8 51.2 54.9 60.9	23 00 22 52 45 22 51 23 00	-10./	32 34 36 38 40	40.0 45.6 45.0 46.3 48.1	41.0 47.8 45.8 48.2 49.6	31 41 39 41 44	19.
42 44 46 48 50* 52	27.2 29.2 45.5a 53.6 56.1 63.0a 39.3 45.2 35.8 38.7	17 44 22 58 23 11 42 35		42 44 46 48 50 52	45.3 33.2 11.3 27.8 30.9 30.3	55.3 39.7 20.6 34.3 38.5 38.9	23 15 22 53 21 45 51 51	-19.6	42 44 46 48 50 52	55.0 55.8 55.5 51.6 53.0 59.0	58.8 60.2 58.8 55.5 57.1 63.2	57 51 22 54 23 03	-18.9	42 44 46 48 50 52	46.0 44.6 47.5 51.5 51.5 49.4	47.3 45.0 48.6 52.6 52.5 51.5	40 38 43 49 49 46	-19.
54 56 58* 00 02 04	11.7 18.2 9.8 15.9 22.7 39.3 26.9 45.5 34.3 51.3 46.1 63.9	23 00 22 56 33 41 22 52 23 11	-20.7	54 56 58 7 00 02 04	24.2 29.9 36.1 37.8 30.3 28.2	31.9 38.8 44.4 48.2 37.5 34.3	40 22 50 23 00 23 04 22 49 22 45	-19.3	54 56 58 9 00 02 04	59.2 55.5 60.0 56.8 54.5 52.5	61.9 58.6 62.0 59.0 56.3 54.9	23 02 22 57 23 03 22 58 54 22 52	-18.5	54 56 58 11 00 02 04	52.0 51.5 49.2 48.6 50.6 54.9	52.3 53.2 49.6 51.5 55.6 59.4	49 49 45 46 51 57	-19
06 08 10 12 14	51.6 66.0 50.1 63.2 40.2 51.2 34.1 45.3 26.8 36.4	23 13 22 56 47 34	-20.3	06 08 10 12	45.2 55.1 32.8 55.1 46.3 58.8	53.9 60.3 40.2 61.1 52.0	23 14 23 27 22 54 23 27 13	-19.3	06 08 10 12 14 16	60.4 68.3 66.0 65.0 62.0 54.6	62.2 70.4 68.5 67.0 64.2	23 04 16 13 11 23 06	-19.0	06 08 10 12 14	54.6 48.6 44.5 47.8 42.5 39.0	55.3 52.6 46.3 50.8 46.2 43.6	53 47 39 45 37 32	-19
16 18 20 22 24 26	23.2 31.5 29.8 38.2 41.3 50.3 40.3 49.1 45.2 51.3 45.1 51.1	27 38 56 22 55 23 00 23 00		16 18 20 22 24 26	55.7 52.1 55.9 54.4 49.1	62.2 61.1 56.1 60.1 60.7 56.0	31 28 21 27 26 18		18 20 22 24 26	54.0 53 47.0 50.6 53.1	55.6 55.4 .0 <i>b</i> 50.6 54.3 57.6	22 54 53 50 44 49 54		18 20.2 22 24 26	47.5	51.5 49.0 46.9	32 45 41 39 45 45	
28 30 32 34 36 38	35.8 42.2 26.2 31.9 20.9 24.9 22.4 31.3 47.8 52.2	22 46 30 20 22 27 23 03	-20.3	28 30 32 34 36 38	42.2 40.8 35.8 45.0 41.0	47.5 46.1 39.9 48.1 41.8 42.2	07 23 04 22 56 23 09 01 23 02	-19.2	28 30 32 34 36 38	46.7 41.6 53.2 56.6 53.2	52.3 44.0 54.3 58.3 56.5 56.4	45 34 52 57 53 53	-19.2	28 30 32 34 36 38	44.2 44.3 44.0 43.1	49.7 48.0 47.0 46.0 45.9 47.9	43 40 39 38 37 39	-20
40	45.0 48.8 33.7 36.5 34.2 38.1 42.8 48.8 53.3 58.3 47.8 52.1	22 58 40 41 22 56 23 12 23 03	-20.2	40 42 44 46 48	41.9 37.7 45.6 41.9 42.1 38.5	39.9 46.9 45.0 46.0 41.8	22 57 23 09 04 23 05 22 59	-19.0	40 42 44 46 48	53.0 48.2 31.2 37.0 43.6 43.5	53.0 37.0 42.0 47.0 45.9	47 21 29 38 37	-19.6	40 42 44 46 48	44.2 48.0 49.3 48.8 46.8 46.3	51.0 51.8 51.1 48.8 48.7	45 47 46 42 42	-20
42 44 46 48 50 52 54 56 58	32.3 36.6 29.2 35.1 16.3 21.5 28.2 30.1 45.8 48.6	22 39 35 14 30 58		50 52 54 56 58	34.I 37.4 24.9 35.5 28.2	38.8 40.3 28.9 37.8 31.6	53 57 38 54 43		50 52 54 56 58	52.9 56.3 53.6 46.3 44.0	55.5 59.3 56.5 49.3 45.0	52 58 54 42 37		50 52 54 56 58	45.0 40.8 41.1 39.5 38.3	42.8 43.2 41.3	39 33 33 31 29	İ

Observers—W. J. P. and R. R. T., who alternated from 4h 04m to 4h 12m.

Observers—R. R. T. and W. J. P., who alternated from 8h 44m to 8h 54m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

nesday, Nove	mber 11,	1903			Magne	et scale	erect	Wedi	nesday,	Nove	mber 11	, 1903		Ma	gnet sca	le erect
Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ings	East decli- nation	Temp. C.	Chr'r time	read	ings	East decli- nation	Temp. C.	Chr'r time	reading	s dec nati	i- Tem
d d 36.8 37.8 34.8 35.1 36.2 37.2	22 26 22 25 26	-20.0	h m 14 00 02 04	d 38.4 39.4 40.0	d 39.8 40.6 41.0	22 42 44 45	-20.6	h m 16 00 02 04 06	d 40.0 39.3 39.2	d 41.3 40.8 40.8	22 44 43 43	-18.8	h m 18 00* 02* 04 07*	37.1 75 38.0 53 31.7 51	.0 22 .8 23	54 –18.3 µ1 85
38.3 38.9 35.0 35.8 32.3 33.0 34.7 35.0 30.0 31.2	42 37 32 36 29	-19.8	08 10 12 14 16	36.2 33.8 34.0 Lo	37.3 35.8 36.5 st 41.7	39 36 36 36	-19.4	08 10 12 14 16	37.4 36.4 34.4 33.2 33.9	38.8 37.3 35.3 33.2 34.2	41 38 35 33 34	-19.0	08 10 12 14* 16	6.0 34 13.1 33 9.3 35 30.1 60 55.2 74	.0   23   .3   24   .8   24   .8   23	66 01 00
33.0 34.6 34.9 36.8 40.4 42.2 44.9 46.8 48.0 50.0	34 37 46 53 22 58	·to.o	20 22 24 26 28	29.2 30.2 29.3 29.1 30.6	38.4 38.2 36.6 35.9 36.5	34 34 32 32 33	-т8.8	20 22 24 26 28	33.9 32.7 35.4 35.2 38.0	34.0 33.7 36.9 37.0 39.9	34 33 37 37 42	-10.4	20* 22 24 26 28	27.8 58 22.5 49 23.2 47 28.3 50 19.7 40	.8 .8	8 8 8 13 9 9 –18.0
54.2 56.0 56.6 58.2 55.4 57.8 56.0 57.8 58.0 58.8	07 11 10 10 13		32 34 36 38 40	34.2 36.2 39.2 39.2 38.2	37.8 39.4 42.7 42.8 41.4	37 40 45 45 43		32 34 36 38 40	42.3 44.3 46.0 45.0 45.3	43.2 44.9 47.9 47.0 47.0	48 51 54 53 53	19.4	32 34 36 38 40	22.9 42 17.2 35 12.5 29 10.7 26 9.0 23	.7 .9 .2 .4 23 (	23 23 24 20 27
62.1 63.0 60.1 62.0 54.7 55.0 52.2 53.7 51.2 53.4	19 17 07 04 03	-19.7	44 46 48 50 52	38.2 40.9 39.9 38.2 38.1	41.7 44.2 42.9 44.1 40.8	43 47 46 45 43	-18.6	44 46 48 50	46.0 44.0 42.0 40.9 38.0	47.0 44.8 42.3 41.9 38.9	54 50 47 46 41	<b>-</b> 19.3	44 46 48 50 52*	8.5 9 7.6 10 7.0 9 6.5 9 39.0 41	.9 .7 .5 .7	6 -18.0 6 4 4 4 4 4
51.4 52.0 50.3 51.8 53.9 54.6 54.0 55.0 49.3 51.3	02 01 06 07 00	-19.8	15 00 02 04	37.0 37.8 39.5 38.8 37.6	39.1 39.8 41.3 40.8 39.3	40 42 44 43 41	-18.5	17 00 02 04	37.0 36.2 34.7 33.6	38.0 38.5 37.6 35.2 34.0	39 37 35 34	-18.5	58 19 00 02 04	38.2 40 38.5 40 39.6 41 39.6 41 38.0 40	5 6 .6 .6	4  4  5 <b>–18</b> .0
54.0 55.9 49.9 51.0 51.7 53.2 51.9 52.6 53.1 54.3	07 00 03 03 05	-19.1	08 10 12 14 16	38.2 40.2 41.9 43.2 43.9	40.2 42.2 43.9 45.1 45.8	42 45 48 50 51	-18.5	08 10 12 14 16	34.2 33.8 35.9 36.3 33.9	36.6 35.9 37.6 38.1	35 38 39 35	-18.3	08 10 12 14 16	35·4 37 34·5 35 33·5 35 34·5 36 39.6 42	8 0 5	18 8 7 5 8 –18.2
52.4 54.3 51.9 53.3 50.6 51.7 48.7 49.3 45.0 45.6	05 04 23 01 22 58 52		20 22 24 26 28	47.5 49.8 47.8 47.1 48.9	50.0 50.9 50.3 49.9 51.8	22 57 23 00 22 58 22 57 23 00	<b>30 3</b>	20 22 24 26 28	31.0 31.8 31.8 31.2	32.9 33.4 33.4 33.2 27.1	31 32 32 32 22		20 22 24 26 28	47.0 49 49.5 51 46.5 49 45.5 46 39.4 42	0 22 3 23 0 5 22 6 0	7 7 4 6
44.0 46.8 45.0 47.6 40.8 43.0 44.8 46.4 44.4 46.6	52 54 47 52 52	-19.0	32 34 36 38 40	52.8 55.5 56.9 54.7 54.0	54.2 57.3 57.9 55.8 55.3	05 09 11 07 06	-10.5	32 34 36 38 40	21.2 27.8 56.1 37.8 29.5 32.5	30.5 66.0 44.7 35.9 36.8	22 27 23 17 22 45 32 22 35	-18.5	32 34 36 38 40	42.3 44 44.9 46 46.0 47 39.0 41 41.0 43	6 2 4	0 -18.6 0 3 5 4 8
42.8 44.3 41.0 42.0 42.0 43.5 42.1 43.6 40.8 41.4 40.8 40.9	49 46 48 48 45 45	-19.0	44 46 48 50 52 54	50.4 48.9 46.7 46.0 44.9 43.2	52.1 48.9 47.0 46.3 45.3 44.0	23 01 22 58 54 53 52 49	-18.6	44*6 46 48*2 50* 52*2 54	41.5 L 19.7 39.2 34.1 7.8	52.5 ost 20.2 62.0 57.7 40.9	23 35 27 03 27 23 26 04 24 08 23 34		44 46 48 50	41.9 45 43.6 45 50.0 52 56.9 59 63.2 66 62.0 65	6 22 3 3 23 6 3 8	
	Scale readings Left Right  d. 36.8 37.2 37.7 38.3 35.2 37.2 37.7 38.3 35.2 37.2 37.5 38.3 35.2 37.2 37.5 38.3 35.2 56.6 55.4 55.6 55.4 55.6 55.4 55.6 55.4 55.6 55.4 55.6 55.4 55.6 55.6	Scale readings declination    Left Right   Compare   Com	readings   declination   C.    d   d   0   0   0   0    36.8   37.8   22   26   -20.0    34.8   35.1   22   25   37.2   35.0   35.0    35.0   35.8   37   32.3   32   34.7   35.0   36   34.6   34.9   36.8   37    44.9   46.8   48.0   46.4   42.2   46.8   44.0   46.8   46.8   46.4   46.8   46.8   47   44.8   46.6   47.0   44.8   46.4   44.8   46.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   44.1   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   44.8   44.0   46.8   47.0   47	Scale readings   Fast declination   C.   Chr'r time	Scale readings   Geclination   C.   Chr'r readings   Geclination   C.   Chr'r readings   Geclination   C.   Chr'r readings   Geclination   C.   Chr'r readings   Geclination   C.   Chr'r readings   Geclination   C.   Chr'r readings   Geclination   Gecli	Scale readings   Left Right   C.   Chr'r time   Chr'r time   Left Right   C.   Chr'r time   Left Right   C.   Chr'r time   Left Right   C.   Chr'r time   Left Right   C.   Chr'r time   Left Right   C.   Chr'r time   Left Right   C.   Chr'r time   C.   Left Right   C.   Chr'r time   C.   Chr'r time   C	Scale readings   Left Right   C.   Chr'r readings   Left Right   Chr'r readings   Left Right   C.   Chr'r readings   Left Right   C.   Chr'r readings   Left Right   Chr'r readings   Left Right   Chr'r readings   Left Right   Chr'r readings   Left Right   Chr'r readings   Left Right   Chr'r readings   Left Right   Chr'r readings   Left Right   Chr'r readings   Left Right   Chr'r readings   Left Right   Chr'r readings   Left Right   Chr'r readings   Left Right   Chr'r readings   Chr'r 33.8	Carreadings   Cast   Temp.   Chr'r   readings   Cast   C	Scale readings   Color   Co	Scale readings   Cast   declination   C.   time   Chr'r   readings   Left   Right   Right   C.   time   C.   Left   Right   C.   Left   Right   C.   Left   Right   C.   Left   Right   C.   Left   Right   C.   Left   Right   C.   Left   Right   C.   Left   Lef	Scale readings   Chr'r time   Left Right   Chr'r time   Chr'r time   Left Right   Chr'r time   Left Right   Chr'r time   Left Right   Chr'r time   Left Right   Chr'r time   Left Right   Chr'r time   Left Right   Chr'r time   Left Right   Chr'r time   Left Right   Chr'r time   Left Right   Chr'r time	Scale readings   Geclimation   Chr   Chr   Chr   Chr   Right   Chr   C	Scale readings   Left Right   C.   Chr'r readings   C.   Chr'r reading	Scale readings   C.   Chr'r   Chr'r	Scale readings   Chr   Famp nation   Chr   Chr   Famp nation   C	Scale readings   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Freadings   Chrir   Chrir   Chrir   Freadings   Chrir

Observers—W. J. P. and F. L., who alternated from 12h 14m to 12h 24m; F. L. and W. J. P., who alternated from 12h 58m to 13h 12m; W. J. P. and R. R. T., who alternated from 14h 08m to 14h 14m.

Observers—R. R. T. and W. J. P., who alternated from 18h 40m to 18h 50m; W. J. P. and R. R. T., who alternated from 19h 34m to 19h 44m.

### MAGNETIC OBSERVATIONS

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedr	iesday, Novei	mber 11,	, 1903		Magn	et scale	er <b>e</b> ct	Thur	sday, Nove	mber 12	1903	Ma	gnet scale er	ect—inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r	Scale readings Left Rig	natio	- Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp C.
h m	d d	0 ,	•	h m	d d	۰,	0	h m	d o		1	h m	d d	0 ,	-18.8
20 00 02 04 06 08 10	51.1 57.8 43.3 47.9 39.2 44.1 38.8 42.4 36.0 39.0 37.3 41.8	22 53 47 45 41 44	-18.3	02 04 06 08 10	54.0 56.5 53.1 57.8 58.8 62.6 43.0 56.5 33.6 35.6 36.3 43.4	22 30 22 13 21 49 58	-17.7	16 00 02 04 06 08 10	37.3 37 37.3 38 37.0 37 37.6 37 36.6 36 36.5 37 37.1 37	1 4 4 4 9 4 8 4	4 4 3 3	18 00 02 04 06 08 10	46.2 43.7 47.3 44.7 50.4 47.7 50.8 48.6 51.8 49.3 52.4 49.9 54.8 52.4	22 44 42 37 36 35 34 30	
12 14 16 18 20 22	33.6 37.1 36.1 39.8 47.3 52.1 41.1 47.2 42.1 47.2 42.0 51.5 40.2 45.7	37 22 41 23 00 22 51 52 55 49	-18.4	12 14 16 18 20 22 24	33.I 44.6 35.7 40.3 29.7 33.0 25.6 31.6 52.0 56.6 70.1 70.3 60.0b	55 44 21 40 22 20	-17.4	12 14 16 18 20 22 24	37.1 37 37.3 38 36.0 37 35.7 36 34.0 34 32.8 34 Scale	2 4 0 4 .1 4	3 4 2 1 9 8	12 14 16 18 20 22 24	56.0 53.6 55.2 53.0 52.5 54.5 55.2 53.7 48.0 46.0 48.0 46.3	28 29 30 29	-18.5
26 28 30 32 34 36 38	31.0 37.2 28.5 37.9 28.6 33.0 31.5 35.4 37.7 46.4 33.0 41.3	35 34 30 34 48 40 22 53	<sub>.</sub> –18.4	26 28 30 32 34 36 38	61.3 61.3 60.0 62.1 53.6 55.6 53.8 56.3 46.8 48.9 41.1 44.6 42.5 44.8	31 31 21 21 10	-17.5	24 26 28* 30 32 34 36 38	inverted 46.6 36 46.3 36 42.7 42 45.3 45 41.6 39 35.8 34	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	4 4 4 7 5 3	26 28 30 32 34 36 38	45.3 43.6 45.3 44.0 47.8 46.6 48.1 46.0 48.4 46.9 48.9 47.8 43.2 41.2		-18.5
40 42 44 46 48 50	43.6 47.2 55.9 74.1 18.3 49.2 26.1 34.5 21.6 27.6 17.9 25.8 19.6 26.8	23 24 22 35 29 20 16 18	-18.5	40 42 44 46*3 48 50*	52.0 52.6 62.3 65.0 61.0 72.3 51.2 65.5 Lost 6.0 25.5	17 35 22 40 23 18 23 52	-17.5	40 42 44 46 48 50 52*	27.9 30 33.7 32 36.7 35 36.8 33 30.6 28 19.8 18	3 5 .6 4 .1 4 .8 4 .1 22 5 .8 23 6	3 6 2 3 -19.0	40 42 44 46 48 50 52	37.7 36.0 36.5 35.3 38.3 37.6 34.8 33.6 33.6 32.3 40.1 38.9 45.5 44.0	57 58 22 55 23 01 23 03 22 53	-18.6
52 54 56 58 21 00 02 04 06	20.7 27.4 24.7 30.5 26.9 33.2 26.9 35.3 27.9 34.7 24.0 30.2 24.5 33.6 29.4 65.1	25 29 31 31 24 27 22 56	-18.1	51* 54 56 58* 23 00 02 04 06 08	32.3 37.0 12.3 21.0 6.0 14.3 37.0 53.8 42.6 60.0 52.8 56.3 53.5 57.3 59.3 62.3 56.2 59.2	27 17 21 31 36 37 46	-17.3	52* 54 56* 58 17 00*1 02 04* 06 08	51.0 40 33.0 18 50.3 38 74.3 64 38.9 23 22.9 6 51.9 39 73.3 57 70.7 60	.2 24 6 .8 5 .3 24 1 .1 23 2 .9 24 1 .1 2	8 7 8 5 –19.0	54 56 58 19 00 1 02 04 06 08	43.8 42.7 42.7 41.7 32.4 31.8 27.8 26.8 17.8 15.4 26.9 24.8 37.4 36.2	22 48 23 04 12 29 23 15 22 58	-18.3
08* 10 12* 14 16 18 20	26.7 65.6 Lost 14.9 24.8 54.6 55.6 41.6 44.4 44.3 45.8 43.8 47.2	23 09 21 26 22 22 02 06 06		10 12 14 16 18 20	48.6 51.6 55.1 52.3 49.6 52.3 57.4 60.0 54.0 57.8 53.0 56.0 47.8 50.0	29 39 30 42 38 36		10 12 14* 16 18 20	75.1 65 79.0 67 56.3 48 45.9 41 52.7 46 65.2 60 74.0 68	.9 24 5 .7 23 5 .2 .2 .1 .4	4	10 12 14 16 18 20 22	46.9 44.6 50.5 48.1 55.8 52.7 57.4 54.8 57.4 52.7 55.2 50.7 58.8 49.2 54.9 50.3	30 27 29 32 30	-18.1
22 24 26 28 30 32 34	43.2 48.1 42.0 47.0 58.8 60.8 65.3 68.8 62.2 65.2 53.9 57.2 53.2 55.4	22 20	-17.8	24 26 28 30 32	52.8 53.9 59.3 60.8 62.3 63.0 61.8 65.6 64.2 70.0 66.0 69.3	34 44 44 48 50	-17.3	24 26 28*2 30.3 32 34 36 38	73.1 69 75.3 72 41.2 32	.5 .7 23 .2 22 .1 .2	04	24 26 28 30 32 34 36 38	55.6 51.2 56.7 52.3 56.9 52.9 56.8 53.1 52.9 51.3 57.2 55.1 67.7 63.7	31 30 29 29 33 28	-18.1
34 36 38 40 42 44 46 48	52.8 55.2 52.0 52.6 54.2 55.2 42.2 42.2 58.0 60.4 52.8 55.9 48.2 52.4	20 17 21 27 28 20 14	-17.7	34 36 38 40 42 44 46 48	68.0 71.0 60.1 65.0 59.4 62.2 59.3 62.8 61.6 66.5 60.8 66.2	59 48 46 46 50 50	-17.3	40 42 44 46 48	52.2 47 52.9 48 51.8 47 50.8 47 51.0 47 50.9 47	.6 .2 .7 .3 .3	36 34 36 37 -18.8 36 36	40 42 44* 46 48	63.3 53.2 49.3 45.1 68.3 66.1 58.1 55.7 Overl'k'd	10 24 22 42 23 31 23 47	-18.0
42 44 46 48 50 52 54 56 58	51.2 52.8 46.5 48.8 46.9 48.8 53.0 55.6 55.9 59.4	17 10 10 20 25		50 52 54 56 58 24 00	61.8 66.4 62.5 67.5 63.1 67.5 59.5 64.3 54.5 58.3 61.2 64.6	52 53 47		50 52 54 56 58	50.I 47 50.2 47 48.9 45 46.9 44 46.8 44	.3 .9	37 37 39 42 43	50* 52 54 56 58 20 00	44.5 14.7 45.2 30.5 51.3 33.9 41.8 34.2 72.4 61.2 51.7 40.8	5 15 0 07 2 22 15 2 21 20	

Correction to local mean time is + 3m 54s. 90° torsion = 28.7. Torsion head at oh oom read 356° and at 24h 15m read 351°. Observers—R. R. T. and W. J. P., who alternated from 21h 52m to 22h 02m.

Correction to local mean time is + 4m 54s. 90° torsion = 29'. Torsion head at 15h oom read 344° and at 20h 10m read 329°. Observers—R. R. T. (W. J. P. 17h 14m to 18h 40m, alternated to 18h 52m.)

Sund	ay, Novembe	r 15, 19	103		Ma	gnet s	cale inv	erted	Sund	ay, Novembe	r 15, 19	U3			wagne	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation		Chr'r time	read	ale lings Right	East decli- nation		Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	
h m 0 00*	d d 46.3 40.3 46.3 41.0	22 30	-15.0	h m 2 00 02	d 32.8	d 29.1	22 50	° -14. I	h m 4 00 02	d d Scale made erect	0 ,	a	h m 6 oo	d 36.0	d 36.8	22 49	-II.7
04 06 08 10 12 14 16	44.9 39.8 44.9 39.8 44.3 39.4 47.8 43.5 46.0 42.0 45.8 42.2 44.6 40.9 46.9 44.8	30 32 32 33 27 29 29 32 26	-14.6	04 06 08 10 12 14 16	31.7 30.9 28.9 29.1 30.6 35.0 35.7 35.7	29.2 28.8 27.1 26.9 28.6 33.3 34.2 31.6 31.8	51 52 54 54 52 45 44 46 46	-14.0	04 06 08 10 12 14 16	73.1 75.3 73.1 76.2 73.8 77.1 73.6 76.4 73.1 75.8 73.7 75.8 73.2 76.4 74.7 76.8	22 50 50 52 51 50 51 51 52	-12.7	02 04 06 08 10 12 14 16	33.7 33.4 34.2 33.3 35.2 34.1 33.8 33.7 33.3	34.5 34.9 35.2 35.1 36.8 35.0 34.6 36.7 36.2	45 46 45 48 46 45 47 46	-11.7
20 22 24 26 28 30 32 34	43.3 40.0 41.8 38.8 41.6 38.5 39.8 36.1 41.1 38.9 41.7 38.1 42.9 39.3	33 35 36 38 38 36 36	-14.7	20 22 24 26 28 30 32	35.2 35.2 34.0 31.8 30.0 32.1 37.2 38.1	32.1 32.2 30.9 28.8 27.7 29.5 33.2 34.2	46 48 51 53 50 43 42	-14.0	20 22 24 26 28 30* 32	74.8 77.4 75.1 77.8 74.9 77.2 75.2 77.4 76.8 78.3 36.8 42.0 37.1 42.3 37.6 42.9	53 53 53 53 55 54 54 54	-12.4	20 22 24 26 28 30 32 34 36	30.6 32.1 32.5 33.6 33.3 31.8 31.6 33.1	33.6 34.8 34.7 35.8 35.2 33.1 32.9 34.6	42 44 45 46 45 42 42 42 45	-11.3
34 36 38 40 42 44 46 48 50 52	42.3 39.4 39.8 36.8 39.8 37.2 40.8 39.1 41.0 38.0 41.6 37.8 40.7 37.7 40.9 38.1 42.7 40.1	34 34 38 38 36 36 36 37 36 36	-14.6	34 36 38 40 42 44 46 48 50 52	37.0 33.6 33.1 33.8 33.2 34.0 33.1 33.2 34.8	33.3 29.8 28.9 29.8 29.2 27.2 27.1 27.7 29.4	43 49 50 48 50 50 51 51 48	-13.9	34 36 38 40 42 44 46 48 50 52	38.3 41.8 38.7 41.7 40.1 42.7 37.8 39.8 34.8 36.8 33.0 35.7 35.8 38.8 37.7 39.8 34.4 36.8	54 55 57 53 48 46 50 52 48	-I2. I	36 38 40 42 44 46 48 50	33.8 31.5 29.4 32.8 34.2 31.8 31.8 37.1 29.8	34.8 32.2 30.6 33.4 35.2 35.2 34.3 40.3 33.7	46 42 39 44 46 44 43 52 41	~II.2
54 56 58 1 00 02 04 06 08	42.5 39.9 42.0 39.4 41.2 39.2 41.8 39.8 41.3 38.3 39.8 37.1 40.0 36.9 40.9 37.3	34 35 35 34 36 38 38 37 38	-14.7	54 56 58 3 00 02 04 06 08	32.9 32.3 32.4 32.6 33.2 32.8 33.6 32.3	27.9 27.9 28.2 29.0 30.0 30.0 31.2 30.2	51 51 51 50 49 49 48 50	-13.8	54 56 58 5 00 02 04 06 08	35.2 37.7 38.2 39.2 35.3 37.0 33.0 34.1 33.1 34.8 35.3 37.7 34.0 36.0 32.0 34.3	49 52 48 44 45 49 47	-12.0	54 56 58 7 00 02 04 06 08	30.8 31.1 31.1 31.9 30.1 30.3 31.0	33.3 34.1 33.2 34.0 33.5 33.8 33.3	42 43 42 43 42 42 42	-11.1
10 12 14 16 18 20	40.3 37.2 40.5 37.3 39.8 36.8 39.2 36.3 39.0 36.1 39.1 36.2 37.7 36.8	37 38 39 40 39 40	-14.6	10 12 14 16 18 20 22	31.8 32.4 32.2 33.6 33.1 32.3 31.8	29.3 30.0 30.0 30.0 29.7 29.1 29.3	51 50 50 48 49 50		10 12 14 16 18 20 22	30.0 32.8 35.4 37.3 35.3 38.1 30.2 33.8 32.5 35.7 33.7 36.4 31.4 34.0	44 41 49 49 42 45 47 43	-12.0	10 12 14 16 18 20	31.1 31.4 30.3 29.9 31.1 28.9 30.3	32.9 32.7 32.8 31.1 33.9 35.1 32.9 34.1	42 42 40 42 44 40 42	-11.0
24 26 28 30 32 34 36 38 40	38.8 36.3 37.8 35.9 38.8 36.8 38.1 35.9 37.3 33.3 35.8 32.2 36.6 33.2	40 41 39 40 43 45 44	-14.3	24 26 28 30 32 34 36	33.2 34.8 35.1 34.8 34.0 34.2 34.8	31.0 32.8 33.4 33.1 33.3 33.8 34.6	48 45 45 46 45 44	-13.4	24 26 28 30 32 34 36	31.9 34.1 35.8 37.6 34.9 36.1 30.8 33.2 30.3 32.9 31.3 33.2 33.9 36.1	43 49 47 42 41 42 47	12.0	24 26 28 30 32 34	31.9 32.0 30.1 29.8 27.8	33.1 33.2 35.8 35.2 32.0 31.7 29.7	40 41 45 44 40 40 37	-10.8
30 40 42 44 46 48 50 52 54 55 55 55	36.4 33.2 35.8 33.2 34.9 32.1 34.3 31.3 33.8 29.8 35.0 30.9 34.9 30.8 34.3 29.9 33.7 29.6	44 44 46 47 48 47 47 48	-14.2	38.3 40 42 44 46 48 50 52 54	33.9 34.3 35.2 34.8 34.6 34.3 34.6 33.8	33.2 33.9 34.9 34.2 32.0 31.8 32.6 32.3 31.7	46 45 44 46 47 46 46 47	-13.3	38 40 42 44 46.3 48 50 52	31.2 33.8 32.2 33.9 32.6 34.0 35.1 36.0 35.1 36.0 33.2 34.1 33.4 34.8 34.2 34.7 36.1 37.9	43 43 44 47 47 44 45 46	-11.9	38 40 42 44 46 48 50 52	36.2 35.9 30.3 31.2 33.2 31.0 32.5	30.0 39.6 36.9 31.1 32.3 34.8 32.8 33.7	38 51 49 40 41 45 42 43	-10.7
56 58	33.4 29.4 33.0 28.9	49 50		56 58	34·4 35·3	32.4 34.9	46 43		52 54 56 58	36.1 37.9 33.4 34.4 34.6 36.0	50 45 47		54 56 58 8 00	33.7 31.8 32.7 31.9	34.6 32.9 34.2 33.2	45 42 44 43	

Observer-R. R. T.

Observer-R. R. T.

Correction to local mean time is + 5m 58s. Torsion head at oh oom read 324° and at the end read the same.

Mond	lay, Novembe	er 16, 190	03		Ma	gnet s	cale inv	erted	Tues	lay, N	ovemb	er 17, 19	003			Magne	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d d	0 ,	•	h m	d	d	0 ,	•	h m	d	d	· ,	o	h m	d	d	. ,	0
8 oo 02	41.8 35.7 39.8 36.8	22 40 40	-22.0	10 00 02	39·3 40.3	37.9 37.6	22 40 40	-18.2	12 00* 02	40.2 38.8	44.4 44.2	22 54 22 53	-14.7	14 00 02	14.7	15.9 13.1	22 I2 08	-13.8
04 06	41.1 37.8 40.8 37.8	39 39		04 06	39.8	37.3	40 40		04 06	48.5	51.6 48.8	23 06 23 01		04 06	11.1	12.0 14.8	06 10	1
08	43.8 39.6	35		08	39.5	37·4 37·3	40		08	40.6	43.3	22 54		08	15.8	17.9	14	
12	44.8 39.2 43.8 38.9	35 36	1	I0 I2	39.6 39.9	38.1 39.1	40 39		12	39.1 39.9	40.3 42.7	50		12	14.3	16.1	12	
14 16	42.2 37.5 42.3 35.2	38 40	-21.5	14 16	39.3 38.9	37·7 37·0	40 41	-17.8	14 16	44.0 45.9	46.3 48.3	22 59 23 02	-14.6	14 16	14.0 8.9	14.8	10 04	-13.6
18 20	42.0 35.I 42.9 35.9	40 30		18	39.3 39.8	36.3 37.0	41 40		18	43.8	46.0 42.2	22 58 53	1	18 20	8.2	10.8 14.1	03 08	
22 24	42.9 35.9 42.8 36.4 44.2 38.2	39 38 36	i i	22 24	40.0	37.8	40 40		22 24	37·7 33.8	40.0 35.8	49 42		22 24	15.8	18.6 21.7	15 20	
26	42.8 37.0	38		26	39.6	37.7 37.8	40	1	26 28	31.0	32.9 29.8	38		26 28	17.4	21.5 17.8	18	
28 30	42.2 36.8 43.0 37.9	39 37	-21.0	28 30	40.I 39.8	38.8 38.6	39 39	-17.7	30	27.I 25.2	27.9	32 29	-14.5	30	17.3	18.1	15 16	-13.4
32 34	42.7 35.7 40.6 38.8	39 38		32	40.5 39.8	37⋅7 37⋅1	39 40		32 34 36	22.2	25.9 28.1	25		32 34 36	9.3	II.2 II.9	04 05	
34 36 38	39.8 38.0 38.9 37.4	40 41		34 36 38	39.5 39.8	36.9 37.3	41 40	1	36 38	26.1 25.8	29.8 29.1	32 31		36 38*	6.8	8.2 43·3	00 02	
40 42	39.7 38.1 39.4 38.4	40 40		40 42	39.8	37·7 39.2	40 38		40 42	24.9 24.3	28.2 28.1	29 29		40 42	37.0 40.7	43.I 45.9	01 06	
44	39.2 38.0	40	-20.9	44	42.0	40.5	36	-17.8	44 46 48	22.9	25.5 26.2	26 26	-14.4	44	38.0	42.I	01 07	-13.2
46 48	39.9 36.2 40.3 37.2	41 40		44 46 48	41.5	40.2 39.6	38		48	23.3	25.9	26	1	48	41.9	45.9 44.7	05	
50 52	40.8 37.9 40.9 37.8	39 39		50 52	40.7	39.8 39.7	38 38		50 52	23.8	25.8 25.8	27 26	-	50 52	37.9 38.2	41.9 41.7	01	
54 56	39.2 37.0 41.0 37.9	41 39		54 56	40.I 40.2	39.5 39.8	37 38 38 38 38 38		54 56	22.0	23.8 25.2	24 26	1	54.2 56	38.2	4I.2 4I.2	22 00	
58	43.0 40.3 42.8 40.3	35 36 38	-20.4	58 11 00	39.8 39.5	39.6 39.2	38	-18.o	58 13 00	26.0 24.8	27.5 26.0	30 28	-14.2	58 15,00	36.4 41.1	39.8 44.8	21 58 22 06	-13.1
02	40.8 38.6	38		02	39.3 39.6	39.2	39 39		02 04	24.2	25.1 21.8	26 21		02 04	44·5 47.6	46.2 50.1	09 15	
04 06	39.3 37.3 39.1 37.2	40 41		04 06	39.7	$39.2 \\ 39.3$	39		06 08	21.8	23.2	23		06 08	48.3	50.7	16	
10	39.I 38.I 39.I 37.9	40 40		08	39.6 38.9	39.4 38.9	39 40		10	19.8	20.8 19.1	20 17		10	49.4	52.1 51.8	18	
12 14	38.2 37.2 38.4 37.3	42 41	-19.8	I2 I4	39.1	39.1 39.2	39 39	-18.o	12 14	20.0	21.7 24.2	20 24	-14.2	12		50.9 57.2	16 27	-13.1
16 18	39.0 36.7 39.2 37.2	4I 4I		16	40.0 39.6	39·5 39·2	39 38		16	26.1	27.2 25.0	30 26		16 18	60.2	60.3 64.2	33 39	
20	39.8 37.6	40		20	40.1	39.2	39 38		20 22	24.3	25.3	27 25		20 22	63.9	64.7 67.9	39 44	
22 24	39.6 37.8 39.8 38.1	40 40		22	40.7	39.3	37 38		24	21.8	22.3	22		24	68.8	69.6	47	
26 28	39.6 38.2 39.2 38.1	40 40		. 26 28	40.6 39.3	40.2 38.9	37 39		26 28	20.9 22.6	23.0	2I 24		26 28	71.4 72.8	71.8 73.7	51 53	
30 32	39.0 38.2 40.1 37.4	40 40	-19.0	30 32	40.0	39.3 39.8	39 38 38	-18.0	30 32	21.4		22 22	-14.1	30 32	71.9 72.1	72.3 $72.9$	51 52	-13.2
34	39.8 37.8	40 40		34 36	40.9 40.8	40.2 40.2	37 37		34 36	21.7 21.8		22 22		34 36	72.8 73.1	73·7 73·7	53 53	
34 36 38	39.4 37.8	40		38	41.8	40.9 40.1	36 37		38 40	23.2 22.2		25 23	!	38	73·5 74·1	74.2 74.6	54 55 58	
40 42	39.1 37.3 37.8 36.5	41 42		40 42	41.1	40.9	36	70 -	42	22.I	22.9	23	-14.0	42	76.0	77.I	58	
44 46	38.1 36.9 38.2 36.8	42 42	-18.0	44 46	42.8 44.0	42.2 42.9	34 32	-18.2	44 46	22.3	22.7	24 23	-14.0	44 46 48	73.8 72.8	74.7 74.1	55 53	-13.3
48	39.7 38.3 39.3 38.3	39 40		48 50	44.8	43·3 42.2	32 34		48 50	20.4	23.5	2I 24	1	50	72.I 71.2	73·5 72.6	52 51	
52	39.9 38.7	39		52	42.5 43.1	41.0	35 34		52	23.2	23.9	25 22		52	69.6 67.9	71.2	49 46	
42 44 46 48 50 52 54 56 58	40.2 38.7 39.7 37.8	39 40		54 56	42.8	42.1 42.2	34	-0 -	54 56 58	20.2	20.9	20		54 56 58	66.8	68.8 67.8	45	
58	39.8 38.0	40		58 12 00	42.7 42.7	41.9 39.2	34 36	-18.1	50	10.2	19.5	17		16 00	64.9	66.1	43 41	

Correction to local mean time is + 6m ois. 90° torsion = 25.'6. Torsion head at 7h 30m read 324° and at 12h 30m read 321°. Observer—R. R. T.

Correction to local mean time is + 6m 15s.

Torsion head at 11h 00m read 318° and at the end read the same.

Observer—R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

hr'r ime	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Tem C.
m 00*	d d	0 ,	0	h m	đ	đ	o ,		h m	d d	0 ,	0	h m	d	d	0 /	76.6
02	39.0 38.0 39.5 38.4	22 16 16	-17.7	2 00	47.5 48.5	45.7 46.5	22 59 58	-15.8	4 00 02	36.8 35.0 36.0 34.4	23 16 17	-15.8	6 00	44.6 46.0	44.6 45.6	23 02 01	-16.0
04 06	39.6 38.3	16		04	49.4	47.8	56		04	35.4 34.0	18		04 06	44.6 41.8	43.9 41.3	03 07	
08	39.9 38.6 39.0 37.8	15 . 16	[	o6 o8	50.8	49.2 49.2	54 54		06 08	34.4 33.0 35.4 33.8	20 18		08	42.8	42.3	<b>o</b> 6	
10 12	37.2 36.3	19		10	52.1	50.3 48.6	52		10	37.8 36.4	14		I0 I2	33.0 28.4	32.5 27.4	21 29	
14	35.3 34.8 33.5 33.3	22 24	-17.3	12 14	50.5 48.6	46.6	22 58	-15.7	12 14	41.4 40.8 45.4 45.0	02	_16.o	14	33.8	32.2	2 <u>1</u>	-15.
16 18	30.I 29.5	30		16 18	47.2	45.2	23 00		16 18	46.2 45.1	23 01		16 18	40.0	38.2 40.6	11 80	
20	30.6 29.4 28.0 26.6	30 34		. 20	47·5 49·3	45·5 47·3	23 00 22 57		20	50.5 49.4 54.4 53.5	22 54		20	43.0	41.0	07	
22	23.2 21.7 22.3 21.0	42		22	49.3	49.8	53		22 24	56.4 55.3	45	,	22 24	45.0 39.0	43·3 37·5	03 13	
24 26	22.0 20.1	43 44		24 26	53.0 50.1	51.3 49.0	51 55		26	53.1 51.9	45 50		26 28	35.3	33.8	18	
28	20.5 18.5 17.3 15.3	46	-17.0	28	48.8	47.6 48.3	57	-15.7	28 30	52.6 51.6 60.3 59.1	51	-16. r	28 30	33·4 34·5	32.3 33.4	21 19	-15.
30 32	17.3 15.7	51	-17.0	30 32	49.9 51.6	50.5	55 52 48	-15.7	32	60.8 59.9	39 38	-10.1	32	29.0	26.8	29	-5.
34 36	9.3 7.0	22 56 23 04		34	54.2 55.9	53.0 54.4	48 46		34 36	64.9 63.3 66.2 64.5			34 36 38	29.7 28.6	28.3 27.0	27 29	
38*	45.3 38.7	07	1	36 38	54.2	52.6	49		38	65.0 64.3	31		38	25.2	24.0	34	
40 42	40.3 39.1 40.3 38.8	10		40 42	52.3	51.0 51.5	52 51	1	40 42	64.3 64.0 65.3 64.4			40 42	24.2 27.2	23.6 26,2	35	
44 46 48 50	38.8 37.7	13	-16.6	44 46	52.5 52.8	51.6	51	-15.6	44 46	68.0 66.5	27	-16.1	44	29.	.5 <i>b</i>	31 26	-15.
46 48	38.3 37.3 38.0 36.6	I3 I4		46 48	55.I 58.0		47 42	1	46 48	65.6 64.5 62.7 62.3	30 34		44 46 48	22.9	22.6 21.2	37	
50	39.6 38.0	12		50	58.3	57.1	42		50	65.3a	30		50	24.0	23.3	39 36 36	
52	40.0 38.0 42.8 41.2	11 07	į	52 54	58.8 61.3	57.6 60.0	4I 37	1	52 54	64.6 64.6			52 54	23.6 30.1	23.4	30 26	
54 56	42.6 39.4	08		54 56 58	62.3	61.4	36		54 56 58	61.4 61.2	36		54 56 58	26.2	29.3 25.8	32	
58 00	42.0 40.0 43.8 42.3	08	-16.3	3 00	60.9		37	-15.6	58	58.4 58.4 55.8 55.3		-16.1	7 00	19.8	18.6 17.6	42	-15.
02	47.0 45.6	23 00	10.3	02	59.2	58.8	40	1	02	53.5b	48	1 2012	02	23.5	22.6	44 36	-5
04 06	50.1 49.3 51.0b	22 54 52		04 06.3	57.6 53.8	56.9 53.0	43		04 06	52.3 52.0 52.6 52.2			04	20.2	19.5 25.3	41 33	
80	50.6 50.0	54		08	56.2	55.5	45		08	54.3 54.0	48		o8	31.3	30.9	24 28	
10 12	50.0 49.8 51.0 50.8	54 53		I0 I2	57.2 56.2		44 46		I0 I2	54.5 54.2 55.0 54.3			10 12	29.0	28.3 30.3	25	
14	58.0 56.5	43	-16.2	14	51.9	50.3	52	-15.8	14	58.1 57.1	42	-16.1	14	29.3	28.7	27 28	-15
16 18	58.0 55.6 60.0 58.3	43		16 18	48.0		22 58 23 06		16	56.7 55.9 57.9 57.0			16	29.0	27.8 25.5	32	
20	55.9 54.9	46	1	20	42.8	41.3	07		20	56.6 55.0	45		20	25.3	22.7	35	
22 24	58.0 56.8 55.5 54.6	42 46		22	37.8 38.0	36.0	14		22 24	57.2 56.8 58.9 58.0	41		22 24	28.3 29.4	24.9 25.6	3I 29	
<b>2</b> 6	49.4 47.8	56		26 28	35·4 36.0	33.8	18		26 28	56.8 56.0 55.4 55.0 57.8 57.0 61.7 61.7	44 46		26	32.0	28.8	25	
28 30	49.4 47.8 51.8 51.0 55.3 54.3 54.5 54.2 56.6 55.1	52 46	-16.0	30	34.6	33.8 32.0 28.2	18 20	-15.8	30	57.8 57.0	40	-16. I	28 30	27.5 28.6	24.3 25.6	32	-16
32	54.5 54.2	47 45		32	34.6 30.8	28.2	26		32	61.7 61.7	42 36 28		32	31.0	27.3	27 28	
34 36	56.6 55.1 56.6 54.6	45 45		34 36 38	33·3 30.6	31.0 28.4	22 26		34 36 38 40 42 44	67.0 66.3 58.0 <i>b</i>	41		34 36 38	30.2 27.5	26.0 24.6	32	
38	57.1 55.6	44 46		38	20.0	28. I	27		38	55.0 53.9	47		38	20.4	25.8	29 28	
40 42	56.6 54.6 57.1 55.6 56.0 54.8 55.3 53.7 52.6 51.2	47		40 42	31.5 32.6	30.4 31.4	24 22		42	57.0 56.3	47		42	29.9 27.8	27.3 26.3	30	_
44	52.0 51.2	) Di	-16.o	44	33.6	31.9			44 46.:	58.0 <i>b</i> 55.0 53.9 54.6 54.0 57.0 56.3 56.9 56.3 2 56.0 55.5	44	-16.0	44	28.3 21.8	26.3 18.6	30 41	-16
40 48	51.7 50.3 51.5 50.2	53		48	34·4 34·5	31.6 32.0	20		48	1 22.0 22.0	40		48	25.3	23.7		
50	50.8 49.5	54		50	34.5 34.6	32.1	20		48 50 52	53.2 52.8	49		50	29.0	23.7 27.3 29.0	34 28	
30 32 34 36 38 40 44 46 48 50 52 54 56 58	50.7 49.3	54		44 46 48 50 52 54 56 58	37·3 35·9	35·3 33·4	15	1	54 56	50.2 49.8 45.6 45.2	23 01		40 42 44 46 48 50 52 54 56 58	33.6 36.0	28.8	25 24 17	
56	51.0 49.4 50.5 48.8 48.5 47.0	55 58		56	38.2	33.4 36.3 35.2	14		56 58	46.6 45.3 44.5 43.5	00	1	56	36.0	34.6 35.3	17	

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

	Scale	Fact			g <sub>a</sub>	-1-	E-at			C	.1.	The sale			Sc	ala	East	!
nr'r me	readings	East decli nation		Chr'r time	read Left	_	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	read Left	ings	decli- nation	Tem C.
m	d d	- 1	, ,	h m	d	đ	0 /	•	h m	d	d	0 1	•	h m	d	d	0 /	0
00 02	39.4 38. 38.0 37.			10 00	52.2 49.4	51.4 49.2	22 51 55	-15.0	12 00 02	62.8 56.2	59.6 54.3	22 36 46	-13.8	14 00 02	65.6 63.8	64.9 63.0	22 30 33	-13.
04 06	38.2 36. 38.6 40.	12		04 06	49.4 48.8 53.0	47.6 50.2	57 22 52		04 06	53.0 49.0	49.7 46.4	52 22 58		04 06	65.0 66.4	63.8 65.7	32 29	ļ
80	40.8 39.	3 10		08	39.0	38.3	23 12		08	45.7	41.9	23 04		08	66. i	64.9	30	
I0 I2	45.6 45. 42.0 40.			I0 I2	36.5 35.9	34·4 35·1	17		10 12	48.4 50.0	45.2 48.9	22 59 55		10 12	65.5 65.6	64.1 64.6	31 30	
14 16	45.7 43.	0:	•	14 16	34.2 38.9	32.9 38.5	20	-15.0	14 16	48.7 47.4	45.2 41.7	22 59 23 03	-13.8	14 16	67.0 68.8	66.1 67.7	28 26	-13.
18	35.2 34.	6 1	\$	18	45.9	43.9	02	-15.0	18	45.0	30.0	06		18	68.2	66.8	27	
20 22	40.2 37. 39.9 36.			20 22	45.3 48.2	42.3 46.8	23 04 22 58		20 22	47.6	41.8	02 23 03		20 22	70.8	69.7 68.2	22 24	
24	37.8 34.	8 1	Ó	24	48.8	46.4	58		24 26	49.5	43.7	22 59		24	66.2	65.0	30	
26 28	39.8 36. 36.3 33.		3	26 28	48.0	46.1 43.0	22 59 23 04		28	53.4	49.0 47.7	52 54		26 28	63.3 65.5	62.2 64.2	34 31	
30	37.6 35.	6 I	5 -15.4	30	44.5 48.1	45.6	22 59	-14.8	30 32	48.9 57.1	44.9 52.8	59 46	-13.7	30 32	64.5	63.4 62.1	32 34	-13
32 34	40.9 38.		1	32 34 36	47.2 46.2	46.I 45.I	22 59 23 0I		34	60.0	56.2	41	1	34	62.6	61.8	35 36	
36 38	41.1 40. 47.4 45.			36 38	57.0 62.1	53·5 59.6	22 46 37		34 36 38	55.2 58.1	50.8 53.3	49 45	1	34 36 38	62.0	61.5 60.0	30 38	
40	42.1 40.	0 0	3	40	54.9	51.7	22 49		40	60.2	54.7	42		40	61.5	60.9	36	
42 44	47·4 45· 37·7 36.			42 44	44.9 44.1	43.0 41.8	23 04	-14.6	42 44	59.6 57.7	53·4 52.1	44 46	-13.9	42 44	64.0	63.5 64.4	33 31	-14
46	30.I 26.	3 2	3	44 46 48	42.1	41.2	07		44 46 48	57.7 60.8 61.2	52.7 54.9	44		46 48	66.2	67.0 63.9	26 30	
48 50	35.9 32. 39.7 35.			50	39·3 41.2	38.3 39.6	12 09		50	58.7	51.6	42 46	1	44 46 48 50 52	64.8	62.8	32	
52	51.7 47.	9 22 5		52	44.8 49.5	43·3 48.2	23 04 22 56		52 54	53.0 56.0	48.1 51.2	53 48		52 54	65.5	63.3	31 32	
54 56	55.2 52.	0 4		54 56 58	50.3	49.2	22 54		54 56	58.6	53.8	44	İ	54 56 58	74.0	71.3	32 18	
58 00	52.6 49. 57.8 54.	2 5 7 4	3 -15.2	11 00	44.8	44.2 40.1	23 03 10	-14.4	58 13 00	60.0	56.0 59.3	42 36	-13.9	15 00	74.6 72.8	72.2 70.8	17 20	
02	55.8 52.	8 4	7	02	37.5	36.2	15		02	63.5	60.I	36		02	74.3 73.8	71.7 71.6	18	
04 06	52.4 50. 52.7 52.			04 06	46.9	45.2 40.9	23 07		04	68.8	64.8	36 28		04 06	73.3	71.5	19	
08	58.8 56.	2 4	2	08	47.2	48.1	22 59		08	68.9 66.4	64.6 63.3	28 31		08	74.4	72.1 68.1	18	
10 12	58.3 55. 51.2 48.	I 22 5	5	IO -	50.1 56.6		55 47 38		12	64.8	61.6	33		12	70.9	69.0	23 18	
14	45.9 41.	8   23 0	4 -15.2	14 16	61.0		38 56	-14.1	14	60.9	58.3 59.2	39 38	-14.0	14	74.I 72.2		18	
16 18	40.1 36.			18	47.3	46.2	59		18	59.6	58.2	40		18	73.5	72.0	18	3
20 <b>2</b> 2	40.0 37			20 22	50.7		54 54		20 22	54.I 52.4	53·3 50.3	48 52		20 22	75.1		17	3
24	43.2 39. 52.8 49.	3 22 5	2	24	49.8	49.2	22 55		24		52.2			24 26*	77.0 43.8	74.2		
26 28	43.6 42. 45.7 43.	2   23 0		26 28	44·7 53·1	44.I 52.9	23 03 22 49		26 28	63.0	61.1	46 35		28	42.2	36.9	16	5
30	47.0 45.	2   23 0	0 -15.1	30	53.1 58.9 62.6	52.9 58.6	40	-14.I	30 32	64.7	61.8 63.2	33 33		30 32	44.1 46.9	37.1 36.8	14	
32 34	52.2 50. 51.8 48.	6   22 5 9   22 5		32 34	56.9 56.4	61.2 55.9	44		34	66.1	64.3	30		34	43.2	38.0	14	1
34 36	46.I 45	6   23 0	I	34 36 38	56.4	55.7 58.0	45		36 38	65.8	64.3 64.0	30 31		36 38	42.9	38.5 37.2		5
38 40	39.9 37 42.8 39		8	40	59.4 54.6 56.0	53.2	48		40	65.7	63.4	31		40	40.9	36.9	17	7
42	48.8 47	9 22 5	7	42	56.0 51.9	54·5 49·3		-14.0	42 44	62.9 65.1	62.6	34 32		42	39.9 43.3	39.6	13	3  -I
44 46 48 50	45.I 43 48.2 46	9   22 5	8	44 46 48	49.7	48.1	56		44 46 48	68.0 68.8	67.8	26	.	44 46 48	39.9	36.7	18	3
48	54.9 52.	8 4	8	48 50	51.8 56.6	49.7 54.1			50	69.8	69.1	24		50	39.9 28.5	25.2	30	5
50 52	52.5 50. 49.0 47.	1 5 9 5	7	52	53.4	51.9	50		52	67.1 65.9	67.0	27		52	26.5 33.0	24.6	3	8
52 54 56 58	53.8 51.	8 5 6 4		54 56 58	50.9 53.7	50.2 51.3			54 56 58	63.1	61.9	34		54 56 58	40.8	38,2	:   10	b
58	53.9 52. 58.5 56.	1 4		58	53·7 62.8	61.7		1	58	63.7	62.3	· 34		58	48.0	47.0	0	3

Observers—W. J. P. and R. R. T., who alternated from 8h oom to 8h 10m.

Observers—R. R. T. and R. W. P., who alternated from 13h 36m to 14h 46m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedi	nesday, Nove	mber 18	, 1903		Ma	gnet s	cale inv	erted	Wedi	nesday, No	vember :	8, 1903		Magnet	scale in	rerted
Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	read	ale lings Right	East decli- nation		Chr'r time	Scale readings Left Righ	natio	- Temp.	Chr'r time	Scale readings Left Rig	nation	
h m 16 00	d d 44.8 <i>b</i>	22 08	-I4.2	h m 18 00	d 30.0	d 29.0	22 32	° -14.8	h m 20 00	d d 46.5 43.			h m 22 00	d d	4 22 33	-14.6
02 04 06 08 10	43.I 42.I 45.I 44.3 46.6 44.7 4I.9 40.3 42.0 40.0	08 06 13		02 04 06 08 10	28.6 26.9 26.8 27.9 26.2	28.0 26.1 25.9 27.2 25.8	34 36 37 35 37		02 04 06 08 10	48.7 43. 45.8 41. 41.8 37. 39.6 35. 38.2 34.	8 06 3 16 9 16 9 19		02 04 06 08 10	26.2 25. 24.7 24. 23.8 23. 24.5 23. 23.7 23.	6 37 2 39 2 40 5 40	
12 14 16 18 20 22	38.0 36.6 40.1 39.9 42.6 41.5 44.8 43.0 41.8 41.1 41.1 41.0	19 15 12 09 13 14	-14.2	12 14 16 18 20 22	24.0 23.8 21.7 13.9 15.7 20.5	23.9 23.2 20.1 14.4 14.9 19.6	41 45 56 54 47 36	-14.8	12 14 16 18 20 22	38.0 34. 39.1 35. 39.7 34. 41.7 37. 42.8 38. 44.5 41. 46.5 43.	8 20 9 20 2 16 9 14 0 11	-14.6	12 14 16 18 20 22	22.0 21. 20.0 19. 19.0 17. 18.6 17. 18.3 17. 19.0 18.	3 47 9 49 8 49 9 49 3 48	-14.7
24 26 28 30 32 34 36	37.0 36.0 37.9 37.6 41.2 40.8 44.9 43.4 43.2 42.0 41.1 39.9 39.0 37.3	19 13 09 11 14 18	-14.4	24 26 28 30 32 34 36	27.7 32.9 38.8 40.8 45.8 46.9 50.1	25.9 32.8 38.8 40.1 42.8 44.3 47.6	30 27 17 15 09 07 22 02	-14.6	24 26 28 30 32 34 36 38	47.8 44. 48.7 45. 46.3 44. 43.2 40. 42.0 39. 40.1 37.	7 06 6 04 2 07 3 13 1 15	-14.6	24 26 28 30 32 34 36	20.3 19. 23.3 23. 25.6 25. 25.6 25. 24.0 23. 23.0 22. 26.3 25.	7 41 3 38 3 38 5 40 6 42	-14.8
38 40 42 44 46 48 50	37.2 36.7 37.8 37.2 37.8 37.5 36.2 35.3 37.5 35.8 30.1 28.8 33.4 31.4	20 19 19 22 20 32 27	-14.4	38 40 42 44 46 48 50	51.2 48.7 43.8 44.2 41.2 41.0 41.2	49.2 47.2 42.2 42.5 40.0 39.4 39.2	14 15 15	-14.3	38 40 42 44 46 48 50	37.8 35. 36.9 34. 39.7 34. 36.0 33. 33.5 32. 31.8 31. 30.9 30.	3 21 9 22 2 20 9 24 5 26 2 29	-14.6	36 38 40 42 44 46 48 50	28.4 28. 29.0 28. 30.3 29. 31.0 31. 32.6 32. 30.6 30. 27.3 26.	33 6 32 8 30 0 29 3 27 1 30	-14.8
52 54 56 58 17 00 02 04	33.6 32.1 37.4 36.2 40.9 40.5 39.1 <i>a</i> 37.9 37.8 36.6 <i>b</i> 35.5 35.3	26 20 14 16 19 20	-14.5	52 54 56 58 19 00 02 04	39.5 38.1 35.6 36.6 34.9 35.9 37.8	37.8 36.8 34.2 35.3 33.7 35.2 37.0	18 20 24 22 24 22 20	-14.3	52 54 56 58 21 00 02* 04	30.9 29. 31.3 30. 30.5 29. 30.9 29. Lost 32.2 26. 32.1 27.	30 33 35 31 31 33 31	-14.6	52 54 56 58 23 00 02 04	24.5 23. 22.0 20. 20.2 17. 18.4 16. 18.1 16. 18.0 15. 16.6 14.	3 40 1 44 2 48 0 50 3 50 1 52	-15.o
06 08 10 12 14 16 18	35.5 35.0 36.4 37.2 33.3 32.3 30.9 30.2 31.9 31.3 32.1 31.8 31.7 31.2 36.7 35.5	23 20 27 30 28 28 29 21	-14.6	06 08 10 12 14 16 18	36.5 34.2 33.4 31.1 30.8 31.8 32.0 29.7	35.2 33.2 32.3 30.2 30.2 29.0 29.6 27.8	22 25 27 30 30 30 30 30	-14.4	06 08 10 12.2 14 16 18	32.8 27. 34.9 29. 36.1 31. 35.5 30. 35.0 30. 35.3 31. 33.2 29. 32.9 29.	30 3 27 5 25 3 25 2 26 7 25 8 28	-14.6	06 08 10 12* 14 16 18	13.1 11. 11.3 10. 8.7 7. 30.6 29. 34.3 29. 35.6 31. 36.2 32. 39.6 36.	3 22 58 0 23 01 6 05 6 10 8 07 6 04 2 23 03	-14.9
22 24 26 28 30 32 34 36 38	41.9 41.2 42.1 41.8 41.3 41.1 36.6 35.9 37.2 36.8 35.2 33.8 39.0 38.1 36.5 36.2	13 12 13 21 20 24 18 21	-14.7	22 24 26 28 30 32 34 36	28.2 27.9 29.0 31.8 33.1 35.4 36.0 36.8	25.8 25.5 27.1 29.4 31.1 32.2 33.3	36 36 34 30 28 25 24	-14.4	22 24 26 28 30 32 34 36	34.2 31. 34.9 31. 35.4 32. 34.1 31. 33.8 33. 35.9 33. 34.3 30.	3 26 9 25 3 24 7 26 2 25 3 23 0 27	-14.6	22 24 26 28 30 32 34 36	42.8 40. 44.3 42. 44.3 41. 43.3 40. 43.5 41. 44.3 41. 45.8 43.	52 0 49 7 50 8 51 2 50 8 50 4 47	-15.0
38 40 42 44 46 55 55 55 56 58	30.5 30.2 31.9 31.7 26.7 26.2 25.1 24.5 26.8 26.1 26.8 25.8 25.8 25.0 28.9 28.1 30.8 30.1	28 37 39 37 37 37 38 33 30	-14.7	38 40 42 44 46 48 50 52	37.1 37.3 37.8 38.7 38.9 38.9 40.1 42.2	34.9 35.2 35.8 36.6 35.7 36.0 37.2 39.3	23 22 21 20 19 20 20 18 14	-14.5	38 40 42 44 46 48 50	34.3 30. 35.8 32. 37.8 34. 37.7 33. 36.8 33. 36.8 35. 36.3 36.	1 24 1 21 8 21 1 23 1 23 1 21 2 22	-14.4	38 40 42 44 46	46.3 43. 45.6 43. 47.3 45. 44.6 42. 45.6 44. 45.4 43. 47.4 45. 46.4 45.	6 47 6 44 6 49 3 47 8 47 3 44 2 45	-15.0
54 56 58	29.2 28.8 30.7 29.9 33.8 32.8	33 30 26		54 56 58	43·3 44·3 44·9	40.7 40.6 41.4	14 12 12 10		52 54 56 58	36.1 35. 35.1 34. 33.3 32. 31.3 29.	2 23		48 50 52 54 56 58 24 00	43.6 41. 42.3 40. 39.8 37. 38.3 36. 38.0 36.	3 52 6 56 9 58	-15.0

Observers—R. W. P. and R. R. T., who alternated from 18h 16m to 18h 30m.

Correction to local mean time is + 6m 28s. 90° torsion = 24.6. Torsion head at oh oom read 318° and at 24h 30m read 308°.

Observers—R. R. T. and W. J. P., who alternated from 20h 10m to 22h 20m.

Thur	sday, Novem	ber 19, 1	1903			Magne	et scale	erect	Frida	y, Nov	ember	20, 190	3		Ma	gnet s	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d d	۰,	1	h m	d	đ	۰,	0	h m	d	d	0 ,		h m	d	đ	۰,	
16 00* 02	39.7 40.7 39.8 41.6	22 27 28	-21.7	18 00 02	40.8 40.7	44·3 45·5	22 30 31	-I7. I	20 00* 02	46.3 50.7	44.9 45.6	22 50 46	-11.4	22 00 02	51.0 48.8	49.0 48.2	22 43 45	-10.2
04 06	38.0 42.4 39.2 43.6	27 29 28		04 06	39.6 39.1	44. I 43.7	29 29		04	51.8 52.4	48.0	43 41		06	49.2 49.2	49.0 49.1	44 44	
08 10	38.8 43.0 38.8 42.7	28		08	40.3	44.7 44.2	30 30		08	51.7	48.5 47.2	42 45		10	50.2 51.3	48.9 49.7	43 42	
12 14	40.5 43.6 41.1 44.1	29 30	-21.0	12 14	4I.0 40.2	44.8 43.6	31 30	-16.8	12 14	50.6	47.0 47.6	44	-11.3	12 14	51.5 51.8	50.0 49.8	42 41	-10.0
16 18	41.8 45.5 42.6 45.8	32 33		18	41.7 42.3	42.9 43.7	30 31		16	51.3 49.9	46.2 45.2	45 46		16	52.3 52.8	50.3 50.9	41 40	
20 22	42.6 46.0 44.8 48.1	33 37		20 22	42.2 42.8	43.2 43.6	31 32		20 22	49.6 50.7	44.5 45.8	47 46		20 22	52.0 52.6	50.7 51.2	41 40	
24 26	46.5 49.3 46.2 49.0	39 38		24 26	42.7 42.8	43.7 43.8	32 32		24 26	49.9 50.0	45.8 45.9	46 46		24 26	51.9 49.8	50.7 48.4	41 44	
28 30	46.8 48.8 46.3 48.9 46.8 49.0	39 38	-20.0	28 30	42.0 41.5	42.8 42.3	30 30	-16.5	28 30	50.8	46.7 46.8	45 45	-11.3	28 30	50.9 49.8	49.7 48.2	42 44	-9.9
32 34 36	46.8 49.2	39 39 38	:	32 34	39.2	40.4 40.1	26 26		32 34	48.9 50.2	47.1 48.5	46 44 46		32 34 36	49.0 48.0	46.1 45.2	44 46 48	
38	46.4 48.3 45.9 47.8	37		34 36 38	37.8 35.5 34.8	38.7 36.8	24 20		34 36 38	49.I 50.8	46.6	43		38	49.3 50.5	46.3 47.9	46 44	
40 42	45.4 46.7 46.4 47.5 46.9 47.8	37 36 38 38	70.0	40 42	34.1	38.2 38.6	2I 2I	-6 -	40 42	49.9	48.1 48.8	44 44		40 42	50.4	48.0 47.5	44 45 46	
44 46 48	45.3 47.1	30	-19.3	44 46 48	36.0 41.7	40.8 44.8	24 32	-16.3	44 46 48	48.7 50.3 50.2	48.7 48.3 48.2	45 44	-11.1	44 46 48	49.0	46.4 46.0	47	-9.8
50	45.7 47.1 45.4 47.3	37 37		50	41.8	44.2	32 29 26		50 52	50.0 49.7	48.3 48.7	44 44		50	47.2 47.4 47.8	45.0 45.2	48	
52 54 56	45.3 47.1 45.1 46.8	37 36 36		52 54 56	38.7 37.2	40.8 39.6	24		54 56	50.2 51.4	49.0 50.2	44 43 41		52 54 56	48.3 47.8	45.7 46.1	49 48 48 47 48	
58	44.5 46.2 44.5 46.1	35 35 34	-0 4	58	36.9 37.2	39.7 39.3	24 24		58 21 00	50.4	49.3	43	-11.0	58	48.5	45.7 45.9	47	7
7 00 02	44.0 45.2 44.4 45.8	34	-18.4	19 00	36.1 34.9 34.8	37·7 37·2	22	-16.2	02 04	52.7 51.9	49.0 50.3 49.3	43 40	_11.0	23 00 02	49.9 51.6 52.8	47.4 47.2 48.2	45 44	-9.7
04 06	44.3 45.8 43.8 45.2	34 34		04 06 08	34.8	37.1 37.0	20 20		06 08	55.0 56.4	53.1 52.7	42 36 36		04 06 08	52.0 55.0 54.8	48.0 48.7	42 40	
08 10	43.2 44.7 43.2 44.1	33 32		10	35·4 33.8	37.8 36.6	2I I9		10 12	57.7 58.0	55.2 54.2	33 33		10 12	56.3	50.9 48.0	40 37	
12 14	43.2 43.8 42.8 44.3	32 32	-18.o	12 14	32.7 34.0	35·4 36·4	17 19	-16.o	14 16	57.9 58.1	54.2 53.0	33	-10.9	14 16	52.1	47.2 46.8	42 43 46	-9.4
18	40.9 43.8 41.8 44.8	30 32		16	32.9	34.4 34.6	16 17		18	57.0 56.2	52.2 52.1	34 35 36		18	49.0	47.9 43.0	44 50	
20 22	40.7 42.3 39.1 40.9	29 27		20 22	36.1 37.7 36.8	37.8 38.9	22 24		22 24	56.2	52.8	36 37		22 24	47.0	42.5	51 48	
24 26	37.7 40.2 37.8 40.0	25 25		24 26	33.8	37·7 34·7	22 17		26 28	55·3 54.6	52.1 52.6	38		26 28	49.4	44.2 39.0 38.2	50	
28 30	38.2 40.8 39.3 41.0	26 27	-17.8	28 30	32.2	33.2	15	-15.8	30	55.8	53.2	37 36	-10.5	30	43.5 42.7 35.6	37.8	57 22 58	-9.4
32 34 36	38.9 42.0 39.3 42.5 40.1 42.8	27 28		32 34	31.0 36.4	32.8 37.8	14 22		32 34 36	57·3 55·0 54.8	54.0 52.1	34 37		32 34* 36	52.2	18.3 30.0 18.8	23 19 20	
38	40.I 43.0	29 29		34 36 38	51.0 60.1	53·4 64.2	22 46 23 0I		36 38	53.2	50.2	38 40		38	35.9 23.8	9.2	42 59	
40 42	39.3 41.8 39.2 41.3	27 27		40*2 42	41.9 50.2	45.0 65.6	22 48 23 II	1	40 42	53.9 53.9	50.8	39 39 36	10.2	40 42*	29.8 46.0 61.1	15.6 15.6	23 26	
44 46	38.6 40.8 39.0 43.2	26 28	-17.3	44 46* 48	32.9 21.2	45.9 51.8	22 42 45	-14.7	44 46	55·4 54·7	52.9 52.9	37	-10.3	44 46*	71.3 74.8	34.9 42.1	22 59 23	-9.3
48 50	39.3 43.8 40.1 43.4	29 29 28		50	33.7 18.9	46.2 33.9	51 29		48 50	52.7 56.4	50.9 56.0	33		48 50	69.2	42.2	16 24	
44 46 48 50 52 54 56 58	39.5 42.7 38.6 41.7	28 27	,,	52 54	6.0	23.7 18.9	14 07		52 54	52.7 49.7	51.9 47.7	39 45		52 54	64.7		30 22 26	
56 58	38.7 42.4 40.2 44.0	27 30	· -	54 56* 58	37.8 37.0	52.9 52.8	06 05		54 56 58	54.0 57.5	53.2 55.9	37 32		54 56 58	42.9	21.6 15.3	23 OI 08	1
				20 00	38.3	52.8	00	-15.3						24 00*	65.0	39.5	17	<del>-</del> 9.

Correction to local mean time is + 8m 49s. Torsion head at 14h 25m read 308° and at the end read the same. Observer—R. R. T. Correction to local mean time is + 9m o3s. Torsion head at 19h 30m read 318° and at the end read the same. Observer—R. R. T.

Sund	ay, November	r 22, 19	03		]	Magne	t scale	erect	Sunda	ay, No	vembe	r 22, 19	03	-	Ma	gnet so	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sc read Left	ings	East decli- nation	Temp C.
h m	đ đ	۰,	•	h m	d	d	. ,	•	h m	d	đ	· ,		h m	d	đ	۰,	0
0 00* 02 04 06 08	38.0 39.0 38.0 39.3 38.3 39.3 37.8 38.6 37.3 38.1	22 35 35 35 34 34	-6.o   	2 00 02 04 06 08	35. I 33.8 33.7 35.7 38.3	35·3 34·3 34·2 36.0 38.7	22 30 28 28 31 35	-3.3	4 00* 02 04 06 08	66.8 68.0 71.2 73.1 69.5	62.8 60.6 64.6 66.3 61.3	24 49 50 44 41 48	-3.I	6 00 02 04 06 08	44.0 46.3 51. 37.3 34.0	35.I 30.2	23 44 39 31 23 54 24 00	3.4
I0 I2	36.5 37.3 36.3 36.9	32 32		10 12	42.3	43.9 46.0	42 46		I0 I2	68.1 71.2	63.0 69.3	48 48 40		10 12	28.2 38.6	26.3 36.3	24 08 23 52	
14 16 18	36.3 36.8 36.0 36.8 36.9 37.4	32 32 33	-5.2	14 16.9 18	58.1	51.4 56.3 59.8	22 54 23 02 07	-3.3	14* 16 18	57.7 66.3 77.5	51.7 61.3 68.0	26 24 12 23 58	-3.2	14 16 18	47·3 43·3 46.6	43.4 38.9 42.2	40 46 41	-3.4
20 22 24	37.1 37.7 37.4 37.9 37.9 38.5	33 33 34		20 22 24	61.2 65.5 69.3	62.1 65.7 69.9	11 17 24		20* 22 24*	69.7 69.6 52.5	61.1 67.8 42.2	53 48 37		20 22 24	39.8 41.1 57.6	35.4 36.3 52.1	52 50 25 16	
26 28 30	38.0 38.3 37.5 38.0 36.8 37.3	34 34 32	-4.6	24 26 28 30	72.5 74.4 75.6	72.6 74.8 76.8	24 28 32 34	-3.3	26 28 30	56.3 56.8 58.0	46.3 53.8 54.6	30 24 22	-3.2	26 28 30	62.4 57.2 49.6	58.4 52.3 45.6	16 25 36	-3.5
32 34	35.5 36.1 34.7 35.3 32.4 33.1	31 29 26	1.0	32 34 36	76.9 75.3 74.6	77.7 77.5 76.0	36 34		32 34 36 38	57·3 57·0 47·4	52.9 53.2 44.4	24 24 39		32 34 36	45.3 46.5 47.2	42.3 43.3 44.5	42 40 39	
36 38 40	29.5 30.0 28.2 28.6	21 19		38 40	71.1 67.3 68.3	73.I 68.9 69.9	33 28 21		38 40 42	47.4 45.6 38.3	47.0 42.7 36.9	37 42 52		38 40 42	50.0 46.6 40.2	47.2 43.3 38.0	35 40 50	
42 44 46	29.3 29.7 29.8 30.3 29.3 29.9	2I 22 2I	-4.2	42 44 46	67.6	68.3 66.7	23 21 18	-3.3	44 46 48	43.6 47.9	43.I 46.9	43 36	-3.2	44 46 48	35.6 34.0	33.6 30.1	23 57 24 pi	-3.4
48 50 52	28.6 29.2 28.6 29.1 29.9 30.3	20 20 22		48 50 52		.8a	09 11		50 52	52.7 47.4 37.9		29 36 23 52		50 52	32.6 37.6 31.2	30.3 35.8 28.8	24 02 23 53 24 04 24 08	
54 56 58	31.3 31.6 32.2 32.5 33.3 33.5	24 25 27 28		54 56 58	65.9 62.7 52.3	67.0 63.7 53.7	23 I4 22 58		54 56 58	36. I 39. 3	.ob 35.5 37.6	24 07 23 55 51		54 56 58	28.9 43.9 57.3	26.4 41.3 51.9	23 44 25	
00 02 04	34·3 34·5 35·2 35·4 37·2 37·6	30	-4.0	3 00 02 04	58.0 55.6 53.2	60.0 57.1 54.3	23 07 23 03 22 59	-3.3	5 00 02 04	38.9 39.0	40.3 37.0 35.6	47 52 52	-3.2	7 00 02 04	71.9 75.4	64.1 67.3 71.2	08 23 02 22 56	-3.5
06 08 10	40.1 40.3 41.1 41.7 43.5 44.1	33 38 39 43		06 08 10	51.8 48.9 44.3	54.2 49.1 44.9	22 59 58 51 44		06 08 10	36.7 30.1 28.6	34·3 27.6 25.1	23 55 24 06 24 09		06 08 10	73·3 65.0 59·3	70.3 61.9 56.5	22 58 23 11 20	
12 14 16	43.6 44.6 43.1 44.0 42.2 43.1	44 43 41	-3.8	12 14 16	47.0 54.9 62.3	49.0 57.3 65.5	22 50 23 02 15	-3.3	12 14 16.6	36.3 37.0 47.3	33.5 35.2 44.3	23 56 54 39	-3.3	12 14 16	64.7 70.5 79.0	63.0 67.5 74.7	23 03 22 50	-3.5
18 20 22	42.3 43.2 42.4 43.2	4I 42 4I		18 20 22	59.7 64.5 73.2	62.9 67.0 76.1	11 18 32		18 20 22	49.0 59.6 59.0	45.0 49.7 54.3	37 25 22		18.5 20 22	75.5 72.3 74.3	72.6 69.8 71.3	22 55 23 00 57	
24 26	41.9 42.9 43.3 43.7 41.5 41.7	43		24* 26 28	28.3	39.7	31 41		24 26 28	56.3 59.3 57.3 66.6	51.7	26 22		24 26* 28	75.0 40.3 31.8	72.0 32.0 23.8	23 56 22 48 23 01	
28 30 32	41.5 41.7 40.6 41.0 40.8 41.6 41.2 41.8	40 38 39 40 36	-3.5	30* 32	35.3 47.0 30.3 35.8 52.8	44.9 56.3 48.3 55.8	23 59 24 34 45	-3.3	30 32	66.6	56.2 62.1	24 15 10	-3.3	30 32	26.3	19.6 18.0	09 11	
34 36 38	38.9 40.0 37.9 38.9 36.8 37.3	30 35 32		34 36 38*	52.3	55·3 69.3	24 57 25 14 25 50 26 20		34 36 38	66.3 66.8 63.3 60.5 60.5	63.3 59.6 56.8	09 15 19		34 36 38	24.3 31.6 34.0 38.6	18.0 24.0 26.6	23 01 22 57	
40 42	36.3 36.9 35.9 36.6 33.9 34.6	35 32 32 31 28	-3.4	40* 42* 44*	49.7	73.2 68.3 44.8 60.0	24 42 26 24	-3.3	36 38 40 42 44 46 48	57.8 59.0	56.8 52.0 53.0	25 23	-3.4	40 42 44	38.6 47.3 54.6	31.9 39.6 52.2	50 37 21	-3.
44 46 48	33.1 33.6 32.5 33.1 32.4 32.9	27 26 26		42* 44* 46 48 50	33.2 49.8 28.0 18.7	50.3 33.5	26 29 25 59 25 45		46 48 50	59.0 53.6 48.9 45.2	40.X	31 38 43		44 46 48 50	33.8 28.7 27.8 25.5 28.2	3I.2 25.2 24.I	22 54 23 03 04	
50 52 54 56 58	32.5 33.0 33.0 33.4	26 26	t.	52* 54 56 58	18.7 30.8 15.5	31.6 18.7	24 59 37		50 52 54 56 58	40.5 43.8 44.5 38.8	35·7 39·3	51 46 48		50 52 54 56 58	25.5 28.2 33.2	21.4 25.8 30.9	08 23 02 22 55	1
50 58	34.6 35.0 35.3 35.6	29 30		58	10.4 29.7	12.0 33·3	59	-3.2	58	38.8	36.3 35.8	52		58 8 00	30.3 29.3	27.I 26.7	22 55 23 00 0I	1

Mond	lay, Novembe	er 23, 19	03			Magne	t scale	erect	Tues	iay, N	ovembe	er 24, 19	03		Ma	gnet so	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
h m	d d		•	h m	d	d	o , '	•	h m	d	d	. ,		h m	đ	d	0 /	•
8 00	37.8 42.9 39.2 43.8	22 35 37 38	-10.0	10 00 02	37·3 37·2	38.6 39.0	22 3I 3I	-6.o	12 00 03	43.7 42.6	42.3 40.9	22 24 26	-б.5	14 00 02	32.0 32.6	29.9 30.8	22 43 42	-4.7
04 06 08	41.5 42.9 38.1 40.2 37.3 40.2	33 32		04 06 08	29.8 29.7 28.8	32.8 31.2 29.8	2I I9		04 06 08	42.8 45.7 48.8	41.4	26 22 18		04 06 08	32.4	30.3	43 43	
10 12	38.8 42.4 34.6 37.9	35 28		10 12	33·3 32.8	34·3 35.0	17 24 25		10 12	49.8 53.1	45.3 46.9 49.1	16 12		10 12	32.6 32.1 32.6	30.9 30.6 30.9	42 43 42	
14 16	35.8 39.1 37.4 39.9	30 32	-9.5	14 16	29. I 34.0	31.2 36.8	19 27	-6.2	14 16	51.7	48.9 45.2	13 19	-6.2	14 16	32.3 32.1	31.0	42 43	-4.6
18 20	37.4 39.1 32.3 33.5	3I 23		18 20	35.0 35.9	38.4 38.8	29 30		18 20	46.1 43.1	42.2 38.1	23 28		18 20	31.9 30.6	30.I 29.0	43 45	
22 24	35.0 36.3 38.2 39.3	27 32		22 24 26	34.2 39.1	37·3 41.2	27 34		22 24 26	44.7 42.9	40.2 37.8	25 29		22 24 26	30.6 30.9	29.2 29.5	45 44	
26 28	38.1 38.5 29.7 30.2	32 18 22		28	4I.I 4I.2	42.2 42.1	37 37		28	43.8	38.6	27 26 30	-6. I	28	30.4	28.8 28.2 27.8	45 46	
30 32 34	32.0 <i>a</i> 39.9 42.1 33.8 34.4	36 25	-9.0	30 32 34	39.1 35.3 34.8	39.9 35.8 35.3	33 27 26	-5.9	30 32 34	41.9 42.9 44.2	37·3 39·7 40·4	27 25	-0.1	30 32 34	29.0 30.0 30.0	28.3 28.6	47 46 46	-4.3
34 36 38	33.3b 28.5 29.3	24 17		34 36 38	32.0 33.I	33.7 35.0	23 25		34 36 38	44.4 45.0	41.3	25 23		34 36 38	30.0	28.9 20.3	46 45	
40 42	39.6 40.0 60.1 60.3	22 34 23 06	_	40 42	32.7 32.3 32.8	34.I 34.I	24 24		40 42	47.2 45.8	42.3 44.8 43.1	20 22		40 42	30.7 29.2	29.8 28.3	44 47	
	47.2 50.9 37.0 39.2	22 48 31	-8.4	44 46 48	36.0	34.7 37.6	24 29	-5.6	44 46 48 50	44·3 42·5	40.I	24 27	-6.0	44 46 48 50 52	29.5 29.8	27.9 28.6	47 46	-4.1
44 46 48 50 52	40.7 43.9 35.8 39.1	38 30		48. 50	37.0 35.5	36.9	31 28 26		50 52	42.0 40.9	38.2	28 30		48 50	30.2	29.1 31.0 30.6	45 42	
52 54 56	33.9 37.3 35.0 38.2 35.1 37.8	27 29 28		50 52 54 56	34.I 36.0 36.I	35.7 36.9 36.8	28 28		54 56	39.1 39.1 37.7	37·3 38.0 36.2	32 31 34		54 56	32.0 29.9 30.0	28.2 28.7	43 46 46	1 '
58 9 00	34·3 37·9 35·0 36·9	28 28	-8.o	58	36.7	37.3	30 28	-5.4	58	39.0 39.3	37.2	32 32	-5.8	58 15 00	30.7	29.1 29.8	45 44	-4.0
02 04	37.I 38.2 39.0 40.2	30		02 04	35.9 35.8 39.7 38.4	36.1 40.4	28 34		02 04	38.7	37·3 35·9	32 35 36		02 04	31.0	30.2 30.5	44 43	
06 08	38.0 39.1 35.6 36.8	34 32 28		06 08	36.2	38.0	33 30		06 08	36.1 35.9	35.0	36		o6 o8	31.9	31.0 30.0	43 44	
10 12	36.7 37.9 37.0 38.4 33.2 35.8	30 31	- 6	10 12	33.2 34.2 36.6	34·3 35·3 37·8	24 26 30		10 12	37.2 35.1 35.2	34.9	34 37		I0 I2	30.9	30.1 30.0	44 44	-3.8
14 16 18	33.2 35.8 34.1 37.1 36.8 40.3	26 27 32	<i>-</i> 7.6	14 16 18	37.2 31.1	38.9 32.1	31 21	-5.2	14 16 18	36.0 36.3	34.6	37 36 36	-5.4	14 16 18	29.9 29.9 29.1	29.3 28.9 28.7	45 46 47	-3.0
20 22	31.1 34.5 31.8 35.6	23		20	20.5		18		20	36.6 35.6	35·5 34.6	35 37		20 22	31.6	30.I 31.4	43 42	
24 26 28	32.1 34.8	24 19		24 26	26.6 30.1	28.1 30.1	14 19		24 26	34.6 34.7	33.2 33.7 31.9	39 38		24 26	32.0 31.6	31.1 30.6	42 43	
28 30	29.2 31.9 34.8 36.3 34.5 35.1 37.8 38.3	27 26	-7.2	28 30	27.3 24.8	27.8 25.7	15 11	-5.1	28 30	31.0	30.0	43	-5.2	28 30	30.3 28.9	29.5 28.0	45	-3.6
30 32 34	39.2 40.7	31 34		32 34	22.0 25.5 26.8	22.8 25.8	07 12		32 34	30.2	29.8	45 45		32 34	28.3	26.8 27.1 26.4	47 49 48	
34 36 38 40	36.3 36.7	29 29 26		34 36 38 40.3	29.7	32.4	14 20 24		34 36 38	32.2 33.3	32.9	41 40 41		34 36 38 40	27.5 28.0 28.7	26.9	50 49 47	
40 42	33.3 34.3	24 18	-6.8	42	34·5 34·9	36.8	27 28	<b>-5.0</b>	42 44	32.2 32.8 33.8	32.I 32.9	4I 40	-4.9	42	29.2	27.9 28.6 28.9	47 46	-3.4
46 48	29.2 30.3 28.0 28.3 28.1 31.0	16 18	3.0	42 44 46 48	35.0 35.1	36.9 39.0	28 30		46 48	32.7 30.9 28.8	32.3	41		44 46 48	29.7 30.6 31.8	31.0	45 43	
50 52	35.6 35.8 36.8 37.9	27 30		50 52	33.4	37·7 34·9	27 23 26		50 52	28.8 29.2 30.8	27.3 27.2	45 48 48		50 52	32.8	31.6 29.0	41 45 46	
42 44 46 48 50 52 54 56 58	35.5 37.7 36.2 37.3	29 29		50 52 54 56 58	33.2 35.9 35.7	36.8	30		40 42 44 46 48 50 52 54 56 58	32.2	30.I	45 43		54 56 58	29.8 29.1 28.9	28.2 28.1	47	'
58	37.1 40.7	32		58 12 00	35.7 36.0	38.5 39.7	30 31	-4.8	58	32.4	30.3	43		16 00	28.9	27.8 27.9	47 47	-3.

Correction to local mean time is + 28s. Torsion head at 7h 25m read 310° and at 12h 15m read the same. Observer—R. R. T.

Correction to local mean time is — 22s. Torsion head at 11h 52m read 307° and at 16h 25m read the same. Observer—R. R. T.

hr'r ime	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	Scale reading Left Ri	s decli	- Tem
m 00*	d d 39.7 41.7 40.9 42.6	。 , 22 30 31	-9.8	h m 2 00 02	d 46.3 45.8	d 46.6 46.3	。, 22 39 38	-6.3	h m 4 00 02	d 46.2 46.8	d 46.5 47.0	22 39 40	-5.2	h m 6 00 02	47.5 48 50.6 51	d ° 6	-4.7
04 06 08 10	42.3 43.8 43.0 44.3 43.0 44.5 43.2 44.4 43.2 44.3	33 34 34 35		04 06 08 10	45.8 46.3 46.3	46.2 46.8 46.8 46.8	38 39 39 39		04 06 08 10	47.0 46.9 47.2 47.4	47.4 47.3 47.6 47.7 47.8	40 40 40 40		04 06 08 10	50.3 50 46.6 47 43.5 44	.9 45 .8 40 .5 35	5
14 16 18 20	43.0 44.3 43.3 44.6 43.0 44.3 43.6 44.6	34 34 35 34 35	-9.2	14 16 18 20	46.6 46.8 48.2 47.8	47.1 47.0 47.0 48.4 48.2	39 39 39 42 41	-6. I	14 16 18 20	47.7 48.4 49.3 48.8 49.3	48.6 49.5 49.3 49.5	41 42 43 43 43	-5.1	14 16 18 20	45.8 46 41.9 42 44.6 45	.5 35 .4 38 .0 38 .6 32 .6 37	;
22 24 26 28	43.6 44.6 43.5 44.6 44.2 44.9 44.2 45.8	35 35 36		22 24 26 28	47.5 47.3 48.2 48.6	47.8 47.7 48.4 48.8	41 40 42 42		22 24 26 28	48.1 47.7 47.0 46.6	48.5 48.0 47.3 47.0	42 41 40 39		22 24 26 28	49.3 50 47.9 48 47.0 47 48.3 48	.6 42 .6 40	
30 32 34 36 38	43.8 44.6 43.6 44.0 43.6 44.2 43.0 43.6 43.5 44.3	37 35 35 35 34	-8.7	30 32 34 36 38	48.8 49.3 47.6 46.0 45.7	49.2 49.4 47.8 46.2 46.0	43 43 41 38 38	-6.0	30 32 34 36 38	46.0 47.2 47.6 47.7 48.0	46.6 47.5 47.8 47.9 48.2	39 40 41 41 41	_5.o	30 32 34 36 38	46.6 47 42.6 43 40.5 41	.6 40 .2 33 .9 31	-4.6
40 42 44 46 48	44.0 44.9 44.3 45.0 44.6 45.5 44.8 45.5	35 36 36 37 37	-8.2	40 42 44 46	46.3 46.6 47.3 47.6	46.6 47.3 47.9 48.3	39 39 41 41	-6.0	40 42 44 46 48	47.8 47.9 47.3 47.0	48.3 48.2 47.6 47.3	41 41 40 40	-5.o	40 42 44 46	41.6 42 39.7 41 45.3 46 49.7 50	.0 40 .8 32 .3 30 .7 38 .7 45	-4.6
48 50 52 54 56	45.3 45.6 46.4 47.0 46.0 46.6 45.6 46.0 47.8 48.5	37 39 39 38 41		48 50 52 54 56 58	48.0 48.3 48.6 48.1	48.6 48.9 49.2 48.6	42 42 43 42		48 50 52 54 56	46.0 44.3 43.8 42.6	46.0 44.9 44.0 43.6 43.8	38 36 35 33		48 50 52 54 56	40.8 41 43.0 43 43.6 44	.6 34 .6 31 .6 34	
58 00 02 04	49.3 49.6 48.3 48.8 48.5 48.7 48.3 49.6	43 42 42 43	, <b>-7.8</b>	58 3 00 02 04	47.3 47.2 47.0 46.7 46.9	47.9 47.8 47.6 47.3	41 40 40 40 40	-5.8	58 5 00 02 04	43.3 43.1 43.4 43.3 44.2	43.5 43.6 43.7 44.4	34 34 34 34 35	-5.o	58 7 00 02 04	41.2 42 42.3 43 43.0 44 44.6 45	33 34.6 32 34.7 33 34.6 37	-4.6
06 08 10 12	48.0 48.4 47.9 48.5 47.3 47.7 47.6 48.0	42 42 40 41		06 08 10 12	47.2 46.7 47.1 47.8	47.7 47.3 47.5 48.3	40 40 40 41		06 08 10	44.3 43.6 43.1 42.8	44.6 43.8 43.3 42.9	36 34 34 33		06 08 10 12	45.0 46 44.7 46 42.8 44 42.6 43	.6 38 .3 37 .5 34 .5 33	
14 16 18 20 22	48.1 48.5 46.6 47.3 47.6 48.3 48.6 49.0 48.3 48.6	42 40 41 42 42	-7.3	14 16 18.2 20 22	47.9 48.3 48.8 49.8 48.7	48.8	42 42 43 44 43	-5.6	14 16 18 20 22	43.9 45.3 46.5 48.3 50.6	44.0 45.6 46.8 48.6 50.6	35 37 39 42 45	-5.0	14 16 18 20 22	41.3 41 42.3 42 42.3 43	.7 32 .6 31 .7 33 .1 33	, ,
24 26 28 30	47.6 48.3 48.0 48.4 48.6 49.3 47.3 47.9	41 42 43 41	-7.0	24 26 28 30	47.9 47.6 47.6 48.1	48.6 48.3 48.0 48.4	42 41 41 42	-5.4	24 26 28 30	51.6 54.7 56.1 51.9	51.8 54.9 56.3 52.4	47 52 54 48	-4.9	24 26 28 30	40.9 41 42.2 42 41.6 41 43.3 44	.8 31 .6 32 .6 31	: : : -4.5
32 34 36 38 40	47.5 48.2 47.8 48.2 46.3 46.6 45.8 46.3 45.6 46.1	41 41 39 38 38		32 34 36 38 40	47.9 47.3 47.3 46.8 46.8	48.2 47.7 47.6 47.2 47.2	41 40 40 40 40		32 34 36 38 40	47.4 45.8 47.0 48.2 46.8	47.7 46.0 47.3 48.6 47.1	40 38 40 42 40		32 34 36 38 40	40.3 40 39.3 40 38.5 41	.7 34 .8 30 .7 29 .3 29	)
42 44 46 48	46.5 46.8 46.1 46.3 46.4 46.8 47.2 47.6	39 38 39 40	-6.8	42 44 46 48	47.3 46.5 46.5	47.6 46.8 46.9 47.3	40 39 39 40	-5.3	42 44 46 48	45.3 45.0 42.7 43.6	45.3 45.2 43.0 43.6	37 37 33 34	-4.8	42 44 46 48	47.5 49 43.8 45 41.2 43	.3 42 .9 36 .1 32	-4·5
50 52 54 56 58	46.9 47.3 46.3 46.9 46.1 46.6 46.4 46.9 46.6 47.1	40 39 39 39 39		50 52 54 56 58	46.9 47.3 47.6 47.2 46.6	47.3 47.7 47.8 47.6 47.0	40 40 41 40 39		50 52 54 56 58	54. 57.3 55.0 54.0 51.5	55.6	52 56 53 51 47		50 52 54 56 58	42.4 44 42.2 43 44.3 46	34 7 33 2 37 .8 36	1 / 3 / 7 / 5 /

Observer-W. J. P.

Observers—W. J. P. and R. R. T., who alternated from 7h 44m to 7h 54m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

hr'r ime	Scread read Left	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp.	Chr'r	Scaread	ings	East decli- nation	Tem C.
m	d	d	0 1	0	h m	đ	đ	0 ,	•	h m	đ	d	0 /		h m	d	đ	0 ,	•
00 02	41.7 42.2	43. I 44. I	22 33 34	-4.2	10 00 02	32.3 35.1	40.7 44.2	22 23 28	<b>-5.0</b>	12 00 02	41.2 42.1	43.I 44.I	22 32 34	-4.6	14 00 02	39.2 39.5	41.8 42.0	22 29 30	-5.0
04 06	43.0 41.1	44.8 42.4	35 31		04 06	35.2 36.3	44.I	28		04 06	41.8	43.5	33		04 06	39.4	41.8	30	
80	38.3	40.2	27 26		08	34.6	44·3 41.8	29 26		80	40.I 39.2	41.3 40.8	30 29		08	39·3 40.1	41.5 42.2	29 30	
10 12	37.2 38.8	39.I 40.7	26 28		10 12	38.6	45.8	32 30		10 12	40.3 40.8	42.I 42.0	31 31	1	I0 I2	41.3 39.2	43.2 41.0	32 29	
14	38.3	40.9	28	-4.0	14	36.5	44.7 44.8	30	-5.I	14	40.0	41.2	30	-4.4	14 16	39.0	41.0	29	-5.
18 18	37·3 37·7	39.7 39.2	26 26		16 18	34.0 35.3	4I.2 42.I	25 27		16 18	39.4 40.1	40.8	29 30	İ	18	39.4 38.8	4I.2 40.I	29 28	
20	39.0	41.0	29 28		20	36.0	42.I	27		20	41.0	42.2	31		20	38.4	40.1	27	
22 24 26	38.6	40.0 42.1	30		22 24	38.0 38.3	44.0 44.2	30 31		22 24 26	41.8	43.0 43.0	32 33		22 24	39.8 40.5	41.4 42.0	30 31	. '
26 28	43.7 45.2	46.1 47.1	36 38		26 28	39·3 35.8	44.2 40.6	3I 26		26 28	42. <b>2</b> 43.0	43.6 44.0	33 34		26 28	40.5 40.8	42.0 42.2	31 31	#L
30	44.9	48.3	39	-4.1	30	36.2	40.8	26	-5.0	30	43.7	44.7	35	-4.3	30	40.4	42.2	31	-5.
32 34	47.6 46.3	49.1 49.2	42 41		32 34	37.1 38.7	42.3 43.1	28 30		32 34	42.6 42.2	44.0 43.3	34 33		32 34	41.0 40.2	42.4 42.0	31 30	
34 36	39.3	43.5	31		34 36 38	38.9	43.I	30		34 36 38	41.6	42.8	32		34 36 38	40.7	42.3	31	
38 40	37·7 38.8	39.7 41.9	27 29	1	38 40	38.5 39.1	42.8 42.9	30 30		30 40	40.I 39.3	41.3 40.3	30 28		40	39.9 39.2	41.1 40.3	29 28	
42	32.6	34.9	19		42	40.2	43.7	32	4.0	42	40.7	41.1 42.8	30	_4.2	42	39.1	40.2	28	
44 46 48	36.2 43.I	38.1 45.0	24 35 36	-4.3	44 46	38.1	41.9 42.0	29 29	-4.9	44 46 48	41.9	42.5	33 32	-4.2	46	39.9 39.0	40.9 40.0	29 28	<b>-</b> 5
48 50	43.3 43.8	45.5 44.8	36 35		48 50	39·7 37·4	42.9 40.6	31 27		48 50	42.3	42.7 43.0	33 33		44 46 48 50 52	39.I 39.2	40.I 40.I	28 28	
52	41.4	42.8	32		52	37.6	40.7	27		52	42.2	43.I	33		52	39.8	40.7	29 28	
52 54 56	44.4	46.0 45.2	37 36		54 56 58	36.2 38.2	38.6 39.6	25 27		54 56 58	42.2	42.8 43.3	33 33		54 56 58	39.I 37.8	40.0 38.8	28 26	
58	40.3	40.7	30		58	41.0	42.7	32	. 0	58	43.2	43.9	34			38.0 38.6	38.8	26	_
00 02	36.8 35.8	38.2 38.0	25 24	-4.4	11 00 02	41.6 38.9	43.2 40.8	32 28	-4.8	13 00 02	43·3 43·9	43.9 44.9	34 35	-4.3	02	38.8	39·3 39·7	27 27 26	-5
04	38.6	42.5	30		04 06	40.8	41.8	31		04 06	43.9 43.8 43.8	44.8 44.6	35 35		04 06	38.0 38.1	39.7 38.8 38.9	26 26	
o6 o8	38.9 42.6	42.9 46.2	30 36		08	40.5	41.8 41.6	30 30		08	43.0	44.7	35		08	37.8	38.2	26	
10	38.3	41.7	29 28		10 12	39.3	40.9 40.8	29 29		10 12	42.1	43.7 42.8	33 32		I0 I2	37·9 37·5	38.4 38.0	26 25	
12 14	37·7 40.7	41.4 43.2	32	-4.5	14	39·3 40.1	41.6	30	-4.8	14 16	41.0	42.0	31	-4.7	14 16	37.7	38.o	25 26	-5
16 18	42.6	44.7 37.6	34		16	41.6	43.0 43.0	32 32		18	39.6 39.8	4I.2 4I.2	29 29		18	38.3 38.8	38.7 39.2		
20	33·3 37.0	43.0	29 38		20	41.9	43.I	33		20	38.2	40.0	27 28		20	39.3	39.7	27 28	
22 24	43.8	48.7 47.9	38 37		22 24	40.9		31 32		22 24	38.0 38.3	40.8 40.9	28		22 24	39.9 40.2	40.2 40.5	29 29	
<b>2</b> 6	30.8	43.8	32	1	26 28	39.9	41.5	30		26 28	39.2 38.3	42.7 39.2	30 27		26 28	40.I 40.I	40.2 40.3	29 29	
28 30	38.0 39.5	43.0	28 31	-4.6	30	39.9 41.0	41.2 42.9	29 32	-4.7	30	37.7	40.5	27	-5.0	30	40.1	40.4	29	-5
32	36.9	40.8	27	-	32	40.7 39.8	43.I 42.2	32 30		32 34	37·4 38.0	40.2 40.0	27 27		32	40.2 39.9	40.7 40.5	29 29	
34 36 38	32.I 34.I	33.3 38.0	17		34 36 38	38.7	40.5	28		36	38.2	39.9	27		34 36 38	41.0	41.8	31	
38	32.2 34.0	36.2	20 24	1	38 40	37·7 39.2	39.7 41.4	27 20		38 40	38.3 38.0	42.2	29 29		38 40	42.1 41.9	42.5 42.3	32 32	
40 42	34.8	43.7	27		42	39.0	40.6	29 28		42	38.9 39.5	42.6	30		42	42.2	42.8	33	
44 46 48		41.6 42.9	27 25 28	-4.8	44 46 48	39.8	41.2 42.7	29 32	-4.7	44 46	40.0	43. I	31 31	-5.0	44 46 48 50	43.8		35 35	-5
48 48	35.4	43.2	28		48	41.5	43.2	32		48	38.8 37.8	41.7	29 28		48	43.3	43.6	34	
50	35·3 36.1	42.2 43.8	27 28		50 52	41.4	43.0 44.7	32 35		50 52	39.2	42.7	30		52	43.2 43.5	43.5 43.8	34	
5 <u>4</u>	37.2	43.9	29		54 56 58	42.8	44.3	34		54 56 58	39.5 39.8	42.7 42.7	30 31		52 54 56	43.7	43.9	35	
50 52 54 56 58	32.5 34.1	41.0 42.2	23 26		50 58	41.6	43.0 43.7	32 33		58	39.8	42.7	30		58	43.4 44.1	44.3	34 35	

Observer-R. R. T.

Observers—R. R. T. and R. W. P., who alternated from 13h 28m to 13h 38m.

Wedr	esday, Nove	mber 25	, 1903		Magn	et scale	erect	Wedi	nesday, Nove	mber 25,	1903		Magne	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp,	Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	Scale readings Left Right	East decli- nation	.Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	
h m 16 00	d d 44.3 44.7 44.7 44.8	22 36 36	-5.3	h m 18 00 02	d d 42.1 43.8 41.8 43.8	22 45 45	-5.4	h m 20 00 02	d d 27.6 28.0 27.0 27.3	22 2I 20	-5.8	h m 22 00 02	d d 25.6 28.9 28.9 32.6	° , 22 20 26	-5.0
04 06 08 10 12 14 16	44.I 44.3 44.7 44.8 44.4 44.6 44.0 44.2 43.9 44.I 43.I 43.3 43.3 43.7	35 36 36 35 35 35 34 34	-5.3	04 06 08 10 12 14 16	43.0 44.9 41.0 43.0 39.9 41.4 38.3 40.1 37.4 38.7 37.5 38.9 40.0 40.6 40.8 41.9	47 44 42 39 37 38 41 43	-5.8	04 06 08 10 12 14 16 18	27.8 28.1 29.0 29.5 27.0 27.3 25.3 26.0 26.6 27.0 28.0 29.0 25.8 28.2 26.3 28.7	22 24 20 18 20 23 20 21	-6.0	04.2 06 08 10 12 14 16 18	33.3 35.3 33.5 37.2 31.3 34.7 32.3 35.2 31.7 34.3 31.1 33.2 33.6 36.6 27.0 30.3	32 33 30 31 30 28 33 23 26	-4.9
20 22 24 26 28 30 32 34 36	43.4 43.6 42.9 43.3 42.8 43.2 42.6 43.0 42.5 42.9 43.0 43.2 44.0 44.2 44.9 45.1 45.4 45.8	34 33 33 33 34 35 37 38 37	-5.2	20 22 24 26 28 30 32 34 36 38	44.2 44.3 43.0 44.0 43.2 44.2 39.3 41.6 46.9 47.3 46.7 47.4 40.8 42.3 38.5 38.9 37.2 38.2	47 46 46 41 52 52 43 38 37	-5.9	20 22 24 26 28 30 32 34 36 38	26.3 27.0 26.3 28.3 28.7 30.5 31.6 32.7 26.3 29.7 25.6 26.6 35.2 36.6 31.8 32.3 32.3 33.3	20 21 24 28 22 19 34 28 29	-5.9	20 22 24 26 28 30 32 34 36	29.3 32.1 29.2 31.8 30.6 32.6 31.8 33.2 31.3 33.0 33.3 33.9 32.6 33.6 30.3 31.3 29.5 30.7	26 27 29 28 31 30 26	-4.9
38 40 42 44 46 48 50 52	44.8 45.2 43.7 44.0 42.9 43.2 42.8 43.0 42.5 42.7 42.6 42.9 42.1 42.3 41.6 41.9	35 33 33 33 33 32 31	-5.2	38 40 42 44 46 48 50 52 54 56	38.2 38.4 36.6 37.0 33.2 33.7 34.0 34.2 38.3a 45.3 45.4 46.6 47.4 37.6 40.9	37 38 36 30 31 38 49 52 39	-5.8	38 40 42 44 46 48 50 52 54 56 58	34.4 36.4 43.8 46.8 42.0 46.3 36.3 39.0 35.2 38.0 33.0 34.6 37.1 38.1 40.3 43.3	33 49 47 37 35 31 37 43	<b>-5.5</b>	38 40 42 44 46 48 50 52	32.5 34.7 33.5 34.9 34.9 36.3 31.8 34.2 33.6 36.0 33.2 35.0 32.1 33.8 32.9 33.6	31 31 34 30 32 31 29 30	-4.8
54 56 58 17 00 02 04	40.2 40.5 39.7 40.0 39.2 39.3 38.9 39.3 38.8 39.0 37.8 38.2	29 28 27 27 27 26	-5.3	54 56 58 19 00 02 04.3	34.I 37.8 33.0 36.4 31.I 33.8 23.5 25.3 19.8 23.2 24.2 28.2	34 32 29 16 12	-5.4	21 00 02 04	35.6 37.6 46.8 58.8 46.6 62.6 48.2 68.2 66.8 79.0 Lost	22 35 23 01 04 09 23 32	-5.3	54 56 58 23 00 02 04	31.8 33.3 33.0 34.7 32.5 34.1 30.4 32.3 33.0 34.5 31.6 33.3	29 31 30 27 31 29	-4.8
06 08 10 12 14 16 18 20 22*	37.8 38.0 37.6 37.8 34.8 35.0 34.2 35.8 34.1 35.0 40.6 42.2 49.0 50.2 57.4 58.0 32.1 38.0	25 25 21 21 20 31 44 22 56 23 18	-5.2	06 08 10 12 14 16 18 20 22	27.2 30.6 27.1 30.5 30.2 32.6 31.9 34.0 31.5 34.1 29.3 31.3 25.6 28.3 28.7 31.1 31.2 32.6	23 27 29 29 25 20 25 28	-5.2	06 08 10 12 14 16.2 18 20 22	27.7 36.3 29.0 37.0 27.2 34.8 30.3 37.5 26.3 33.3 24.3 28.2 23.6 28.4 22.1 28.7 28.2 31.6	22 28 30 26 31 25 19 19 18 25	-5.1	06 08 10 12 14 16 18 20 22	33·3 35·5 33.8 36.2 34.6 37.0 35·2 37·7 34·5 37·2 34·4 36.8 35.6 37.8 33·3 35·0 31.0 32·2	32 33 34 35 34 34 35 31 27	-4.9
24 26 28 30 32 34 36 38	17.8 24.2 19.0 24.9 21.8 22.8 19.1 21.2 18.9 19.3 22.0 23.3 23.3 26.0	22 56 57 58 54 53 22 58 23 01	-5.2	24 26 28 30 32 34 36 38	32.3 33.3 31.5 32.6 32.0 32.8 30.4 31.2 29.9 30.9 30.4 31.3 30.4 31.2 30.6 31.4	29 28 29 26 25 26 26 26	-5.2	24 26 28 30 32 34 36 28	29.8 31.3 21.4 22.8 26.7 29.2 26.7 33.1 40.0 45.6 36.5 41.7 26.8 34.3 29.6 37.8	25 26 13 22 25 45 39 26	<b>-5.0</b>	24 26 28 30 32 34 36	33.8 37.2 32.5 34.3 32.5 34.0 34.3 35.3 35.3 36.3 34.6 36.6 32.7 34.3 32.8 34.2	34 30 30 32 34 34 30	-5.0
38 40 42* 44 46 48 50 52 54 56 58	13.5 17.0 10.5 14.2 43.9 46.6 42.3 45.6 40.0 42.6 41.8 44.3 43.7 45.4 42.4 44.3 41.5 44.3 42.3 43.8	22 47 42 48 49 47 43 45 48 46 45 45	-5.3	36 40 42 44 46 48 50 52 54 55 58	30.6 31.4 30.6 31.2 29.9 30.7 30.7 31.3 30.7 31.3 29.0 29.6 29.9 30.2 30.4 30.8 29.7 29.9 24.1 24.3	26 25 26 26 26 25 24 25 26 25 26	-5.5	34 36 38 40 42 44 46 48 50 52 54 56 58	29.6 37.8 26.3 38.6 28.6 36.8 32.8 37.2 32.8 36.2 36.3 39.6 34.0 38.6 27.2 31.2 25.4 27.8 28.4 31.7 26.8 29.2	31 29 29 33 32 37 35 24 20 25	-5.o	38 40 44 46 48 55 55 55 55 58	32.8 34.2 34.5 36.1 36.5 37.8 35.8 36.9 36.2 36.5 34.4 35.5 36.9 37.4 37.3 37.8 33.8 34.6	30 33 36 35 35 36 36 37 31 32 36	-5.0

Observers—R. W. P. and W. J. P., who alternated from 19h oom to 19h 14m.

Correction to local mean time is — 05s.

Torsion head at oh oom read 307° and at 24h 25m read the same.

Observer—W. J. P.

Thur	sday, Novem	ber 26,	1903		Ma	gnet s	cale inv	erted	Frida	ıy, Nov	zember	27, 190	3			Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation		Chr'r time	read	cale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d d	۰,		h m	d	ď		•	h m	d	d	0 ,	•	h m	đ	d	. ,	۰
16 00 02	52.7 51.7 53.0 51.8	22 34 34	-8.4	18 00	51.3 51.6	51.0 51.1	22 36 36	-6.8	20 00* 02	38.8 36.2	40. I 37. 2	22 3I 27	-10.9	22 00 02	40.0 38.9	40.2 39.1	22 32 30	-8.5
04 06 08	53.1 52.1 53.1 52.4	34 34		04	51.8 51.9	51.7	36 35		04 06 08	37·3 38.6	38.3	29 31		04 06.2		39.0 39.0	30 30	
10 12	53.0 52.3 52.5 52.0 53.0 52.3	34 34		08 10 12	51.9	51.8	35 35		10 12	40.0	4I.2 4I.9	33 34 32		08	39.0 38.6	39.2	31 30	
14 16	53.2 52.7 53.3 52.8	34 33 33	-8.1	14 16	52.0 51.9 51.9	52.0 51.9 51.8	35 35	-6.8	14 16	39.7 40.0 39.9	40.7 40.9 40.8	33	-10.4	12 14 16	39.1 39.0 39.0	39.3 39.0 39.4	31 30 31	-8.2
18 20	53.7 53.0 54.0 53.3	33 32		18	51.9 51.8	51.7 51.2	35 35 36		18	39.9 39.8	40.7	33 33 32		18	38.7 39.1	39.4 39.2 39.7	30 31	
22 24 26	53.7 53.1 53.3 53.0	33 33		22	51.9 51.8	51.4 51.4	35 35		22	40.I 40.I	40.8	33 33		22 24	40.0	40.3	32 31	
28	53.2 52.9 53.1 52.6	33		24 26 28	51.8 51.8	51.4 51.3	35 36		24 26 28	40.9 41.9	41.4 42.4	34 35		26 28	40.2 38.0	39.9 40.8 38.2	33 29	
30 32	53.2 52.7 53.6 52.9	34 33 33 33	-8.0	30 32	52.0 52.3	51.7 52.0	35 35	-6.8	30 32	41.9 40.8	42.4 41.2	35 34	-10.0	30 32	36.9 35.3 35.8	37.I 36.0	27 25 26	-8.1
34 36	53.3 52.6 52.9 52.1	33 34		34 36 38	52.6 52.1	52.2 52.0	34 35		34 36 38	40.0	40.5	32 33		34 36 38	37.1	36.7 37.9	28	
38 40	52.5 51.8 52.0 51.2	35 35		40	51.8 51.2	51.4 51.1	35 36		40	40.8	41.2	34 33		38 40 42	35.7 35.2	36.1 35.8	25 25	
42 44 46	51.9 51.2 51.9 51.1 51.7 51.0	34 35 35 36 36 36	-7.8	42 44 46	51.0 51.2 52.0	50.8 50.9 51.8	37 36	-6.8	42 44 46	40.1 40.6 40.2	40.6 41.0 40.8	33 33 33	-10.0	44	33·3 34·3	34·3 34·9	22 24 22	-8.1
46 48 50	51.7 51.1 51.9 51.5	36		44 46 48	52.8 53.1	52.3 52.7	35 34 33		44 46 48 50	39.9 39.9	40.2 40.8	32 33		48 50	33.2 31.6 33.4	34.4 32.4 34.0	20 22	
52	51.9 51.9 52.1 51.0	35 35 35 35		50 52 54 56 58	53.5	53.0 53.2	33 32		52	40.8	41.7 41.6	34 34		44 46 48 50 52 54 56	33.I 30.9	33·3 32.0	21 19	
54 56 58	52.0 51.8 52.1 51.8	35 35		56 58	53.8 53.7	53.I 53.0	33 33		54 56 58	40.9 40.7	41.7 41.2	34 33		56 58	32.8 33.0	33.5 33.2	2I 2I	
17 00 02	52.2 51.9 52.2 51.9	35 35 35	-7.4	19 00 02	53·9 54·2	53.I 53.7	32 32	-6.7	2I 00 02	40.2 40.0	40.8 40.7	33 33	-9.7	23 00 02	32.I 31.8	33.8 33.8	2I 2I	-8.0
05 06.6		35 35 35		04 06	54·1 54·4	53.8 54.1	32 31		04 06	40.1	40.8 41.0	33 33		04 06	36.1 50.2	38.8 55.2	28 52	
08 10	52.2 51.9 52.1 51.4	35 35		08	54.2 53.3	53.9 52.9	32 33		08	40.8	4I.2 4I.0	34 33		10	48.2 34.9	57·7 48.2	52 34	
12 14	51.9 51.2 52.0 51.3	35 36 35 35 35	-7.0	12 14 16	52.4 51.2	51.8	35 37	-6.6	12 14 16	40.8	40.8	33 33	-9.4	12 14* 16*2	47.6 20.8 9.8	61.8	22 55 23 32 22 58	-7.9
16 18 20	51.9 51.3	35		18	50.9 51.1 51.5	50.2 50.4 50.9	37 37 36		18 20	40.1 40.0 39.9	40.7 40.3 40.2	33 32 32		18 20	8.2 16.2	42.I 32.9 43.3	22 49 23 04	
22 24	51.9 51.3 51.9 51.4 51.9 51.4	35 35 35		22	52.8	52. I	34 33		22 24	39.9	40.2 40.0	32 32		22 24	23.0 31.0	43.2	09	
26 28	51.9 51.4 52.0 51.6	35		24 26 28	53.4 53.3 53.0	52.9 53.0 52.7	33 34		26 28	40.0 40.2	40.3	32 33		26 28	48.0	48.6 59.7 55.9	42	
30 32	51.9 51.5 52.0 51.6	35 35 35	-7.0	30 32	52.6	52.2 51.4	34	-6.5	30 32	40.4 40.8	40.8 41.1	33 34	-9.3	30 32	41.1 48.8 18.9	07.2	33 48 01	-7.8
34 36 38	52.0 51.6 52.1 51.8	35 35		34 36 38	51.9 51.8 52.0	51.2 51.8	35 36 35		34 36 38	40.4 39.9 39.8	40.8 40.1	33 32		34 36 38*	35·3 27·3 10.8	36.3 55.8 42.3 35.6	29 23 II	
38 40 42	52.0 51.6 51.8 51.3	35 36		40	52.9 52.7	52.6 52.2	34 34		38 40	39.8	40.0	32 32		40	8.2	25.3	22 38 28	
42 44	51.6 51.1 51.4 51.0	35 36 36 36 36	-6.8	42 44 46	53.0 53.0	52.6 52.6	34 34	-6.5	40 42 44 46 48	39.8 39.2	39.8 39.3	32 31	-9.1	42 44 46	8.8	24.I 22.7	28 27	-7.8
40 48	51.3 51.1 51.0 51.0	36		48	52.8 52.3	52.2 51.9	34 35			39.I 39.I	39.2 39.6	31 31		48	16.9 9.4 9.1	19.2 13.3 14.2	30 20	
50 52	51.0 51.0 51.2 51.0	36 36 36		50 52	52.7 53.0 54.7	52.2 52.8 54.0	34 33 31		52 54	39.0 40.1 39.6	39·3 40·4 39·9	31 32 32		50 52 54	2I.3 I4.I	25.I 18.8	20 38 28	
44 46 48 50 52 54 56 58	51.3 51.2 51.5 51.2 51.6 51.1	36 36		54 56 58	57.4	57.0 58.6	27 24		50 52 54 56 58	39.0 38.8	39.9 39.1 39.0	30 30		54 56 58	12.8	16.8 18.8	25 28	
30	J1.0 J1.1	30	ļ	20 00	59.0 59.8	59.5	22 23	-6.3		55.5	0,	0,5		24 00	14.1	19.0	22 28	-7.9

Correction to local mean time is — o2s. Torsion head at 15h 41m read 307° and at 20h 30m read the same, Observer—R. R. T. Correction to local mean time is — 35s.

Torsion head at 19h 30m read 352° and at 24h 00m read the same.

Observer—R. R. T.

Sund	ay, Novembe	r 29, 190	03		Magnet s	cale inv	erted	Sund	ay, Novembe	r 29, 190	93	Ma	gnet scale in	verted-	-erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	
h m 0 00* 02 04 06	d d 41.9 40.8 42.0 40.8 42.1 41.0	22 44 44 44	-8.0	h m 2 00 02 04	d d 42.2 42.0 42.6 42.0 44.9 44.0	22 43 43 39 36	-7.6	h m 4 00.5 02 04 06	d d 67.0 65.2 67.1 65.7 69.1 67.9 71.0 69.2	22 44 45 48 50	-4.9	h m 6 00 02 04 06	d d 37.1 39.9 36.5 39.4 37.1 39.8 38.0 40.1	0 , 23 02 01 02	-6.3
08 10 12 14 16 18 20 22	43.0 42.1 42.5 41.3 42.7 41.9 43.0 42.2 42.8 41.9 42.0 41.1 41.9 41.0 42.7 42.0 42.4 41.8 41.6 41.2	42 43 42 42 42 44 44 42 43 44	-8.0	06 08 10 12 14 16 18 20 22	46.7 46.1 45.2 44.9 43.7 43.2 43.1 42.6 44.3 43.9 43.1 42.8 41.7 41.3 39.9 38.9 34.0b	30 38 41 42 40 42 44 44 47 56 58	-7.4	08 10 12 14 16 18 20 22	72.4 71.3 71.8 70.7 71.8 70.8 70.1 69.2 70.1 69.4 70.1 69.2 72.9 72.2 72.4 73.0 72.8 73.4	53 52 52 50 50 54 55 55	-4.6	08 10 12 14 16 18 20	38.0 40.1 36.1 37.9 35.9 36.8 38.7 40.7 36.1 38.0 35.3 37.1 37.8 37.8 44.1 45.0 44.1 45.0 40.9 42.7	03 23 00 22 59 23 04 23 00 22 58 23 01 12 12 07	-6.6
24 26 28 30 32 34 36 38	41.7 41.2 41.6 41.1 41.7 41.0 42.1 41.2 42.2 41.9 42.8 41.8 42.7 41.5	44 44 44 44 43 42 43	-8.0	24 26 28 30 32 34 36 38	32.7 32.1 33.3 32.3 34.9 34.5 36.1 35.2 35.8 35.2 35.1 34.1 36.7 36.1	58 57 55 53 53 55 55	-7.3	24 26 28 30 32 34 36* 38	74.0 74.3 74.6 75.1 75.0 75.4 77.0 77.7 78.0 78.3 37.1 42.2 36.9 41.8	57 58 22 58 23 02 03 04 03	-4.6	24 26 28 30 32 34 36 38	38.0 40.3 40.1 41.2 40.8 43.1 44.3 45.8 46.2 48.8 46.1 48.7 47.1 49.7	03 06 08 12 16 16	-6.8
40 42 44 46 48 50 52	42.2 41.9 41.6 40.7 42.0 40.4 41.1 40.1 41.4 40.3 41.9 40.9 42.8 41.9	43 44 44 45 45 45 44	-8.o	40 42 44 46 48 50	37.7 36.8 37.6 37.1 37.7 37.1 36.9 36.6 37.1 36.9 37.4 37.1 37.4 37.2	52 51 50 50 51 51 51	-7.2	40 42 44 46 48 50 52	38.7 44.0 43.9 47.7 42.0 46.8 39.7 43.5 37.2 40.2 37.7 41.1 43.1 47.2	07 14 11 07 02 03 13	-4.8	40 42 44 · 46 48 50	45.2 47.8 47.1 50.2 50.8 53.8 49.1 50.8 51.8 54.2 54.1 55.8 54.9 57.7	15 18 24 20 25 28	-6.9
54 56 58 1 00 02 04 06	43.5 42.3 44.3 43.1 44.5 43.5 45.0 44.2 43.8 43.2 43.7 42.8 44.3 43.2	42 40 40 39 41 41 40	-7.9	52 54 56 58 3 00 02 04 06	37.2 37.1 38.1 37.8 37.8 37.8 38.2 37.9 38.0 37.8 37.9 37.7 37.8 37.8	51 50 50 49 50 50	− <b>7.</b> I	54 56 58 5 00 02 04 06	46.8 49.7 45.9 48.0 47.8 49.7 47.8 49.3 55.3 56.7 59.0 59.2 61.6 62.8	17 15 18 18 30 34 39	-5.2	52 54 56 58 7 00 02 04 06	61.1 63.5 60.9 62.8 59.4 61.0 58.3 60.5 54.0 55.1 52.7 53.9 51.0 52.1	40 39 36 35 27 25	-7.0
08 10 12 14 16 18 20	43.0 42.1 42.0 41.0 40.5 39.4 40.1 39.5 39.8 39.0 37.4 36.9 37.9 37.1	42 44 46 46 47 51 50 48	-7.8	08 10 12 14 16 18 20	39.1 38.9 39.9 39.7 40.8 40.3 40.7 40.1 41.2 40.9 41.3 41.0 40.0 39.7	50 48 47 45 46 45 44 46	-7.0	08 10 12 14 16 18 20	63.9 64.0 68.0 70.9 68.1 69.9 62.3 67.3 56.3 59.8 53.4 57.7 55.2 58.8	42 51 50 43 33 29 31	-5.5	08 10 12 14 16 18 20	53.2 55.3 61.4 63.3 62.2 64.1 57.6 60.0 59.9 62.4 58.9 61.9 61.4 63.8	23 27 40 41 34 38 36 40	-7.0
22 24 26 28 30 32 34 36	39.3 38.9 40.2 39.8 39.2 38.9 38.1 36.8 36.6 37.1 36.9 36.6 36.6 37.5 37.3 40.8 40.8	46 48 48 51 51 51	-7.7	22 24 26 28 30 32 34 36	40.1 40.1 40.7 40.3 41.9 41.4 41.2 40.6 41.1 40.9 41.6 41.4 42.8 42.6 41.8 41.5	46 45 44 45 45 45 44 42 44	-6.6	22 24 26 28 30 32 34 36 38	52.7 58.1 52.8 56.8 57.1 59.3 57.4 58.1 57.8 59.1 57.2 58.3 49.8 51.2 53.8 54.8	29 28 33 33 33 32 24 21	-5.8	22 24 26 28 30 32 34 36 38	59.6 61.8 62.8 64.2 63.3 65.1 61.7 63.7 56.0 56.8 52.8 54.1 49.8 51.3 49.2 50.8	37 41 42 40 30 25 21 20	-7.0
30 32 34 36 38 40 44 44 46 50 55 55 55 58	38.8 38.5 39.6 39.2 36.2 35.4 37.8 37.1 38.7 38.1 38.7 37.8 38.8 37.6	45 48 47 53 50 49 49	-7.6	38 40 42 44 46 48 50	42.2 4I.7 42.6 42.1 42.1 4I.3 4I.2 40.9 37.5 37.5 37.2 36.8 37.2 36.1 36.5 36.2	43 42 43 45 50 51 51 52	-5.8	40 42 44 46 48 50 52	50.3 50.7 53.7 54.2 52.3 53.2 50.0 51.1 47.7 49.3 45.3 47.0 45.2 48.1	27 30 26 24 21 18 14	-6.0	40 42 44 46 48	50.1 51.2 50.2 52.2 45.2 46.8 42.8 44.6 37.3 39.8 40.3 42.8 37.5 39.3 38.6 39.8	21 22 14 10 02 07 02 03	-7.I
54 56 58	41.5 40.1 39.2 38.1 45.6 44.7	45 48 38		52 54 56 58	36.3 36.0 37.7 37.2 39.7 39.2	52 50 47	Control Contro	54 56 58	43.8 46.8 41.1 44.2 38.0 41.2	13 09 04		50 52 54 56 58 8 00	43.2 45.2 44.3 45.6 45.1 46.4 42.7 43.4	11 12 13 09	-7.2

- 35.

Observer-R. R. T.

Correction to local mean time is — Im ois. 90° torsion = 21.'1. Torsion head at oh oom read 342° and at 8h 20m read 339°. Observer—R. R. T.

4ond	ay, November	er 30, 19	103		Ma	agnet s	cale inv	erted	Tues	day, D	ecembe	er I, 190	3			Magne	et scale	erect
ır'r me	Scale readings Left Right	East decli- nation	Tempa C.	Chr'r time	read	cale dings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	
m 00 02.3 04 06	d d 61.0 59.2 60.2 58.1 57.9 56.1 57.7 56.3	22 29 31 34 34	-10.3	h m 10 00 02 04 06	d 61.0 61.3 61.0 58.9	59.1 58.8	22 29 29 29 32	-6.8	h m 12 00 02 04 06	d 46.1 55.2 54.5 48.9	d 47.1 56.1 54.9 49.9	° , 22 21 35 34 26	-8.0	h m 14 00 02 04 06	d 48.4 49.0 49.1	d 48.6 49.1 49.3	22 24 25 25 28	-6.8
08 10 12 14 16 18 20 22 24	55.8 54.5 54.1 53.2 53.9 52.1 51.9 50.5 51.4 50.2 53.2 52.0 52.6 52.0 54.8 52.2 57.9 55.9	37 39 40 43 44 41 41 40 34	-9.8	08 10 12 14 16 18 20 22	59.2 59.1 58.8 58.3 59.1 60.7 60.2 58.9 58.5	57.9 58.2 57.9 57.3 58.7 59.3 58.9 58.6	32 32 32 33 31 29 30 31	-6.4	08 10 12 14 16 18 20 22	49.1 48.3 50.1 49.2 50.9 49.8 53.1 50.2 51.7	50.2 49.8 51.2 50.2 51.7 50.8 53.7 51.3 52.1	26 25 27 26 29 27 32 28	-7.8	08 10 12 14 16 18 20 22	51.1 50.9 52.9 54.1 53.9 55.3 54.8 54.3	51.1 53.1 54.1 54.9 55.7 54.8 54.0	28 31 33 33 35 34 34 33	-6.7
24 26 28 30 32.3 34 36 38	57.7 55.3 57.2 55.2 58.1 57.0 63.3 62.1 57.5 56.1 45.3 44.8 39.1 36.6	35 35 33 25 34 22 53 23 04	-9.3	24 26 28 30 32 34 36 38	60.7 60.0 62.1 61.1 61.0 60.9	57.8 57.8 59.6 59.1 58.2 58.0	31 28 29 30 30	-6.2	24 26 28 30 32 34 36 38	57·3 55·4 46.8 45·9 48·3 49·7	58.3 57.6 48.8 47.7 49.9 50.9	39 37 23 22 25 27	-7.6	24 26 28 30 32 34 36	55.0 53.9 54.0 53.9 53.9 54.8 55.1	55.2 54.2 54.3 54.1 54.1 54.8 55.3	35 33 33 33 33 34 35	-6.5
40 42 44 46 48 50 52	45.7 42.3 56.3 56.1 56.6 56.1 48.1 47.7 50.0 48.6 50.0 48.9 56.1 54.9	22 54 35 35 48 46 46 36	-8.7	40 42 44 46 48 50	60.9 60.8 60.6 61.1	58.1 58.5 58.9 58.3 59.5	32 32 31 30 30 30 30 29 28	-6.1	40 42 44 46 48 50	55.1 53.3 52.2 45.3 47.0 48.1 49.4 47.8	55.4 55.2 53.3 46.9 49.0 49.9 51.1 49.2	35 33 31 20 23 25 27 24	-7.4	32 34 36 38 42 44 46 48 50 52 54 58	55.2 55.5 55.6 55.8 56.0 56.3 56.3	55.48.80 0 2 7.8 3 55.56.56.56.55 56.55.56.55	35 35 36 36 37 37 37	-6.4
54 56 58 00 02	55.7 54.2 56.0 55.0 57.1 55.4 58.1 56.2 60.2 56.8 60.1 57.4	37 36 35 34 32 31	-8.2	54 56 58 11 00 02 04	61.3 61.2 61.2 58.9 57.9	59.6 59.6 57.2 56.2 56.2	28 29 29 33 34 34	-6.1	54 56 58 13 00 02 04	46.6 45.4 45.0 45.3 43.9 39.1	48.1 47.6 46.3 46.9 45.9 40.3	22 21 20 20 18 10	-7.3	15 00 02	54.1 54.3 55.0 54.8 55.4 55.0	55.3 54.6 55.0 55.3 55.2 55.9 55.2	33 34 35 34 35	-6.2
06 08 10 12 14 16 18	58.4 56.3 57.5 54.3 58.1 55.0 60.7 57.7 61.8 59.3 59.4 57.7 60.3 57.9 61.2 59.2	34 36 35 31 29 32 31 29	-7.7	06 08 10 12 14 16 18 20	57.5 59.7 63.1 61.4 59.5 57.4 58.1 59.4	56.6 58.7 61.1 60.8 59.0 57.1 56.3	34 31 26 28 31 34 34 32	-6.0	06 08 10 12 14 16 18 20	43.8 44.0 42.8 39.3 40.7 42.4 44.0 43.9	45.3 45.7 44.1 39.8 41.7 42.6 44.2 44.2	18 16 10 13 15 17	-7.I	04 06 08.3 10 12 14 16 18	56.3 57.3 58.2 59.1 59.2 60.0 60.3 61.3	56.5 58.8 59.3 59.6 60.4 60.8 61.9	35 37 39 40 41 41 43 43 45	-6.2
:8	60.3 59.2 60.9 59.2 60.3 59.1 59.7 58.2 60.6 59.6 60.7 59.9 60.3 59.4	30 30 29 30 31 29 29	-7.3	22 24 26 28 30 32 34 36 38	59.1 59.7 59.8 58.6 57.9 58.5 59.4 59.4	57.2 56.4 57.8 56.4 55.9 57.7 57.9 57.8	32 32 31 33 34 33 32 32	-5.9	22 24 26 28 30 32 34 36 38	45.1 42.2 43.8 43.6 42.7 43.6 46.3 46.2 42.8	45.I 42.2 44.0 45.0 42.8 44.4 47.8 46.7	19 14 17 18 15 17 22 21	-7.0	22 24 26 28 30 32 34 36	61.9 61.9 61.2 61.8 62.8 61.5 60.9	62.3 62.1 61.5 62.0 63.0 61.7 60.9	46 45 44 45 47 45 44	-6.2
0 2 4 6 8	60.3 60.0 58.9 57.9 58.1 57.2 57.2 55.4 55.7 54.6 56.2 55.1 58.7 57.9 59.3 58.4	29 32 33 35 37 36 32 31	-7.0	40 42 44 46 48 50	61.0 61.8 60.3 59.8 60.3 61.1 60.3	59.5 60.6 59.7 58.8 59.5 60.3	32 29 28 29 30 30 28	-5.7	40 42 44 46 48 50	45.3 43.1 46.0 46.7 47.0 47.8 47.8	43.4 45.7 43.7 47.0 47.4 47.4 48.1 47.8	16 19 16 21 22 22 23	-7.0	34 36 38 40 44 46 48 50 52 54 56 50	60.1 60.4 60.2 59.6 58.8 57.7	60.5 60.6 60.4 59.8 57.8 57.0	43 43 43 42 40 39	-6.1
5 8	60.0 59.2 61.7 60.4 60.9 60.0	30 28 29		54 56 58 12 00	60.3 59.3 58.3 60.1	59.3 58.3 57.7 60.0	30 31 33 29	-5.4	52 54 56 58	48.7	48.9 48.3 47.9	25 24 23		54 56 58 16 00	56.2 56.3 56.2 55.8	56.4 56.4 56.0	37 36 37 36 36	-6.0

Correction to local mean time is — Im 30s.
Torsion head at 7h 36m read 339° and at 12h 20m read the same.
Observer—R. R. T.

Correction to local mean time is + 25s. 90° torsion = 22.6. Torsion head at 10h 10m read 336° and at 16h 25m read 341°. Observer—R. R. T.

Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	
1 m 0 00* 02 04 06 08	d d 32.3 31.3 31.9 31.6 31.5 30.3 31.2 30.4	22 39 40 41 41	-13.3	h m 2 00 02 04 06	d 40.8 41.4 40.9 37.6	d 40.6 41.3 40.5 37.6	22 26 25 26 30	-9.9	h m 4 00 02 04 06	d d 47.8 46.2 45.3 45.3 37.3b 40.0 38.3	12 25 22	-9.3	h m 6 00 02 04 06	d d 56.0 55.0 64.6 62.1 69.8 68.6 69.4 67.5	24 03 23 51 41 43	-9.1
10 12 14 16 18 20 22	33.3 33.0 34.4 34.3 36.5 36.0 38.6 38.1 39.3 39.0 37.0 36.2 35.0 34.0 33.3 32.7	37 35 33 29 28 32 35 38	-12.6	08 10 12 14 16 18 20 22	37.4 36.8 34.3 33.3 31.6 31.3 30.1 27.8	37.2 36.5 33.7 33.0 31.3 30.8 29.6 27.3	31 32 36 37 40 41 43 46 48	-9.8	08 10 12 14 16 18 20 22	37.0 35.8 39.5 38.6 39.6 39.3 36.6 36.0 37.9 37.3 32.6 32.3 30.6 29.6 32.9 31.3	22 21 26 24 32 36 33	-9.3	08 10 12 14 16 18 20 22	70.1 68.6 71.0 69.2 70.2 68.6 63.8 62.0 63.9 62.6 69.3 67.5 70.1 68.9 75.2 72.6	41 40 41 51 51 43 41 34	-9.0
24 26 28 30 32 34 36 38	35.0 34.5 37.6 36.3 37.5 37.2 37.8 37.0 37.3 36.3 34.9 34.3 33.1 32.5	35 31 31 32 35 38	-12.0	24 26 28 30 32 34 36 38	26.7 25.5 24.6 24.1 23.5 21.4 19.3	26.0 25.3 24.1 23.6 22.7 21.3 19.0	50 51 52 53 56 22 59	-9.6	24 26 28 30 32 34 36	40.6 38.6 47.5 46.7 47.5 47.1 47.8 46.8 43.1 42.0 40.8 39.9 36.9 36.3	09 09 09 16 20 26	-9.3	24 26* 28 30 32 34 36	79.0 77.5 56.7 49.6 61.3 55.3 57.2 55.6 59.3 57.0 61.0 59.8 60.2 59.3 59.8 58.2	27 18 21 19 15 16	-9.0
30 40 42 44 46 48 50 52	34.6 34.0 33.3 32.8 31.3 31.0 34.3 33.7 28.0 27.6 28.6 28.5 29.5 29.3 32.3 32.3	35 37 40 36 46 45 43 39	-11.3	38 40 42 44 46 48 50 52	18.4 18.8 18.0 17.8 18.3 17.0 17.2 16.0	18.3 17.6 17.6 18.3 17.0 17.0	23 01 00 01 02 01 03 02 04	-9.6	38 40 42 44 46.4 48 50 52	35.3 32.7 31.6 31.3 34.8 34.2 30.0 29.5 30.0 29.3 34.6 33.8 34.4 33.3 41.6 39.6	37 37 30 30	-9.1	38 40 42 44 46 48 50 52	59.8 58.2 58.8 58.2 62.7 61.8 59.3 58.5 62.5 61.0 67.3 66.6 61.6 60.2 56.0 55.0	17 18 12 17 13 05 14 23	-9.0
54 56 58 50 02 04 06 08	31.0 30.6 28.8 28.8 27.9 27.1 23.8 22.5 23.0 22.1 24.6 23.8 24.6 24.3	41 44 46 53 54 51 51 48	-11.0	54 56 58 3 00 02 04 06	15.8 14.6 14.3 13.5 14.3 14.6 13.7	15.4 14.6 13.7 13.3 13.8 14.3	05 06 07 08 07 07	-9.5	54 56 58 5 00 02 04 06	43.6 4I.0 50.3 47.5 53.6 5I.0 56.1 52.6 59.3 56.8 59.8 57.2 60.5 58.1	17 07 23 01 22 58 52 51 50	-9. I	54 56 58 7 00 02 04 06	56.3 55.3 56.3 55.0 55.3 55.0 58.9 58.5 55.0 53.8 53.0 52.5 56.1 55.3	22 23 23 18 25 27 22	-9.0
10 12 14 16 18 20	26.3 26.0 27.3 26.8 27.6 27.5 25.6 25.3 21.6 21.6 21.8 21.2 20.4 19.7 22.8 21.8	48 47 46 49 55 56 58 54 48	-10.5	08 10 12 14* 16 18 20 22	13.0 10.6 8.0 44.8 39.3 38.8 38.3 36.3	13.0 10.4 7.3 40.0 38.7 38.4 37.9 36.2	09 13 18 17 22 23 23 26	-9.4	08 10 12 14 16 18 20 22	60.8 57.9 60.1 57.9 62.6 60.0 63.7 61.0 61.1 59.8 58.3 57.0 55.8 54.3 53.3 51.2	50 50 47 45 48 53 22 57 23 01	-9.1	08 10 12 14 16 18 20	44.7 44.3 46.0 45.2 36.8 35.6 44.6 44.0 44.5 43.8 42.3 39.5 41.1 38.4	40 38 53 40 41 46 48	-9.0
24 26 28 30 32 34 36 38	26.6 25.8 25.6 24.7 25.6 25.0 25.3 24.7 26.0 25.3 25.1 24.5 25.0 24.6	50 50 50 49 50 50	-10.2	24 26 28 30 32 34 36 38	36.1 36.0 35.8 36.6 32.6 35.5 37.5 43.8 48.8	35.9 34.6 35.0 36.3 31.8 34.5 37.3 42.8	27 28 28 26 33 28	-9.2	24 26 28 30 32 34 36 38	53.0 51.3 53.0 49.0 49.3 47.4 45.1 43.1 43.2 41.2 39.4 38.2 40.6 39.1 36.6 35.5	23 01 01 05 07 14 17 22 21	-9.0	22 24 26 28 30 32 34 36	45.00 52.6 50.7 49.3 48.5 52.3 49.5 44.0 41.5 38.2 35.3 42.6 39.0 49.2 45.6	39 29 33 30 43 52 46 36	-9.1
38 40 42 44 46 48 50 52 54 56 58	23.2 22.7 23.8 23.0 21.8 21.8 29.2 28.8 30.1 29.7 31.3 30.9 31.6 31.3 33.3 32.8 34.3 34.0	53 53 55 44 42 41 40 38 36 31 28	-10.0	38 40 44 46 48 50 54 55 55 58	43.8 48.8 57.6 56.0 52.0 55.0 60.4 63.2 60.6	42.8 47.6 56.3 55.4 51.0 54.5 58.6 61.8 59.5	23 08 22 54 22 56 23 02 22 57 50 45 49 22 58	-9.2	38 40 42 44 46* 50 52 54. I 56 58	36.6 35.5 27.0 23.4 20.3 18.8 8.5 6.8 56.0 48.0 48.8 45.6 46.2 42.6 46.9 44.0 58.0 52.8 57.6 57.2 59.3 57.6	27 44 23 53 24 11 08 16 20 19	9.0	38 0 2 446 88 50 3 456 88 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	49.2 45.0 45.0 41.8 44.6 40.5 36.9 35.2 32.3 27.8 23.1 22.6 21.3 16.7 21.4 17.6 34.6 30.3	36 42 43 23 53 24 03 14 20 24 19	-9.0

Observer-W. J. P.

Chr'r time	Scale readings Left Rig	nati	cli-	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Tem; C.
1 m 3 00 02	d 0 36.8 33. 37.8 35.	4 23	55 53	-8.8	h m 10 00	d 64.8 66.3	d 62.1 64.0	o , 23 II 08	-8.6	h m 12 00*3 02	d 56.1 57.1	d 50.8 52.9	22 46 43	-8.7	h m 14 00 02	d 51.2 47.9	d 49.2 46.7	22 51 55	-8.5
04 06 08 10	45.9 41. 50.9 48. 55.1 49. 44.2 38.	2 3 9	42 32 28 45		04 06 08 10	65.9 63.8 63.2 62.2	64.0 61.9 63.2 61.8	08 12 11		04 06 08 10	59.8 59.1 60.0 59.2	55.8 55.3 56.1	39 40 39		04 06 08 10	46.9 42.2 42.3	45·5 41.2 41.1	22 57 23 04 04 06	
12 14 16 18	45.5 38 38.3 33 35.2 31	2 7 0	44 54 58	-8.7	12 14 16	62.0 58.8 57.8	61.5 58.5 57.4	13 13 18 20	-8.6	12 14 16	58.7 59.9 59.8	55.7 54.7 56.3 56.4	40 41 38 38	-8.6	12 14 16	41.0 41.7 43.8 44.5	39.5 40.3 42.5 43.5	05 02 01	-8.5
20 22 24	38.6 32 36.8 30 28.0 22 20.3 17	I 23 I 24 8	11 20		18 20 22 24	57.1 56.0 55.0 57.7	56.6 55.0 54.5 56.1	2I 23 24 2I		18 20 22 24	57.7 59.9 65.8 58.8	54.0 57.7 62.1 54.0	42 37 29 41		18 20 22 24 26	42.2 40.3 39.1 40.0	41.1 39.5 38.3 39.5 40.8	04 07 09 07	
26 28 30 32	24.3 20 34.0 31 20.4 15 29.7 25	I 23 3 24 9 24	59 22 06	-8.7	26 28 30 32	56.0 56.2 60.9 60.9	54.8 55.9 60.2 60.5	23 22 15 15	-8.7	26 28 30 32	58.9 55.2 54.1 51.9	56.1 52.4 50.1 47.5	39 45 48 52	-8.7	28 30 32	41.6 41.1 42.5 41.0	40.8 40.4 42.1 39.8	05 06 03 06	-8.5
34 36 38 40	37·3 34 43·7 39 39.8 34 43·7 36	0	54 45 52 47		34 36 38 40	61.3 61.1 62.1 63.1	60.1 60.2 61.7 62.0	15 15 13 12		34 36 38 40	50. I 55.3 57. I 54.0	46.7 50.7 52.3 49.5	54 46 44 48		34 36 38 40	37.8 36.8 36.6 34.9	37.2 35.6 35.3 33.8	13 13 16	
42 44 46 48	45.0 38. 47.4 40. 33.0 29. 42.9 37.	8 23 0 24	02	-8.7	42 44 46 48	63.9 63.6 62.7 61.9	63.1 62.8 62.0 60.9	11 11 12 14	-8.7	42 44 46 48	48.1 46.2 44.6 47.5	49.5 44.8 42.7 40.9 43.8	22 57 23 00 23 02 22 58	-8.8	42 44 46 48 50 52	34·5 35·3 33·3 33.0	33.6 34.1 32.6 32.3	16 15 18 18	-8.5
50 52 54 56	49.8 44 55.7 48 49.9 44 52.8 46	3 1 0	36 29 37 33	,	50 52 54 56	61.8 62.0 63.1 66.2	60.3 60.8 62.1 65.0	14 14 12 07		50 52 54 56 58	49.3 56.1 59.2 60.7	45.3 51.7 55.8 57.2	55 45 39 37		50 52 54 56 58	32.4 34.8 34.6	31.6 33.9 34.1 34.4	19 16 16 15	
58 00 02	47.6 43 49.2 44 52.2 47	0 1 7	39 37 32 23	-8.7	58 11 00 02 04	68.8 67.9 67.7 62.8	68.0 67.1 66.9 62.6	03 04 04 12	-8.7	58 13 00 02 04	58.8 55.7 50.7 46.7	56.0 54.2 47.8 44.8	57 40 44 52 58	-8.9	58 15 00 02 04	35.3 37.8 38.3 38.0 39.9	36.3 37.6 37.1 38.7	12 10 11 08	-8.5
04 06 08 10	59.1 54. 60.7 56. 58.7 56.	8 9 1	21 18 20		06 08 10	64.7 74.6 73.4	64.7 74.1 72.7	23 09 22 54 56		06 08 10	48.3 48.8 53.0	46.2 47.0 50.5	55 54 48 48		06 08 10	41.3 44.3 45.6	40.3 42.8 43.6	05 01 23 00	
12 14 16 18	60.2 56. 57.8 54. 60.1 56. 61.8 57.	2 2 3	19 22 19 17	-8.7	12 14 16.2 18	71.0 68.6 70.9 66.3	70.8 66.0 68.3 63.7	22 59 23 05 01 08	<b>-8.</b> 6	14 16 18	53.1 51.7 50.3 48.9	51.4 50.2 48.6 47.2	50 52 54	-9.0	12 14 16 18	47.1 48.5 48.0 47.2	45.5 46.6 46.1 45.6	22 57 55 56 57	-8.5
20 22 24 26	61.6 56. 63.2 58. 63.7 58. 67.6 62. 65.8 61. 64.7 60.	9 8 0	17 14 14 08		20 22 24 26	63.3 64.2 64.3 65.1 65.7	60.4 62.1 62.6 63.1	13 11 10 08		20 22 24 26	45.4 48.7 51.6 59.6	44.7 48.1 49.8 56.1 58.4	59 54 50 39 38		20 22 24 27 28	46.6 45.6 45.0 45.3 46.0	45.4 44.0 44.1 44.5 45.4	57 22 59 23 00 22 59	
28 30 32 34	65.8 61. 64.7 60. 64.2 60.	0	11 12 13 15	-8.7	28 30 32 34	66.3 71.2	63. I 63. 9 65. 3 64. 9 69. 2 62. I	08 06 07 00	-8.6	28 30 32 34	59.6 58.9 61.1 58.4 58.3 58.7 60.8	60.3	34 39 39	-9.0	30 32	46.0 46.5 47.2 47.6	45.4 45.9 46.6 47.1	22 59 58 57 56 55	-8.6
36 38 40	62.7 58. 63.8 60. 63.4 60. 65.3 61. 65.1 62.	0 2 4	13 13 11		34 36 38 40	63.1 62.2 63.8 64.7	60.0 61.7	12 14 12 11		34 36 38 40 42	58.7 60.8 61.9 65.1	57.2 57.0 56.2 58.6 60.2 63.1	40 36 34 29		34 36 38 40 42 44 46 48	48.3 49.3 50.0	47.7 48.3 49.1	55 54 53 52 48 46	
26 28 30 32 34 38 42 44 48 55 55 55 55 55 55	65.1 61. 62.8 59. 62.7 58.	7 3	11   14   15	-8.7	42 44 46 48	65.1 59.7 64.1	62.3 58.6 62.9	10 18 11	-8.6	44 46 48 50	64.2 64.7 62.0	62.8 63.3 60.5 58.2	30 29 34 38	-8.7	44 46 48	46.5 47.6 48.3 49.3 50.0 53.1 54.5 55.3 55.3	51.5 52.8 53.8 54.6	44 43	-8.7
50 52 54 56	63.9 59. 64.3 61. 64.1 61. 63.5 62. 65.8 63.		14 12 12 12		50 52 54 56 58	68.2 68.8 68.2 73.3 74.7	66.2 67.0 66.9 71.5	05 04 23 04 22 57 54		50 52 54 56 58	59.3 55.5 52.8 51.3 51.9	54.0 51.0 49.4 49.8	44 48 51 50		50 52 54 56 58	55.0 56.0 56.0 56.6	54·3 53·5 55·0 54·6 55·4	43 45 43 43 42	

Observer-R. R. T.

Observers—R. R. T. and W. J. P., who alternated from 13h 32m to 13h 40m.

				1	<u> </u>		1	1		1			l	1	1		1	1
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation		Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	
h m 6 00	d d 57.6 56.2 58.8 57.6	22 40 38	-8.8	h m 18 00 02	d 63.5 63.0	d 62.6 62.5	° , 22 30 31	-9·5	h m 20 00 02	d 64.7 66.1	d 64.4 65.9	22 28 25 26	-9.7	h m 22 00 02	d 52.0 57.1	đ 49.0 54.0	° , 22 50 42	-9.9
04 06 08 10 12 14 16	60.0 58.3 60.1 58.4 60.9 59.3 60.1 58.6 62.3 60.8 66.3 64.5 68.5 67.2 67.5 66.3	37 37 35 36 33 27 23	-8.9	04 06.2 08 10 12 14 16	63.1 62.3 62.3 61.1 60.0 58.7 58.5 57.8	62.0 62.3 61.3 59.4 59.0 57.7 57.2 57.0	31 32 35 36 38 38	-9.5	04 06 08 10 12 14 16 18	66.0 65.0 66.2 66.9 65.9 65.7 66.6	65.9 65.0 66.1 66.6 65.3 65.0 66.0	26 27 25 24 26 27 25 26	-9.6	04 06 08 10 12 14 16 18	58.7 54.1 53.8 54.8 57.8 55.8 60.7	57.2 51.2 52.0 52.1 54.0 51.2 57.6 54.2	42 38 47 46 45 41 45 36 41	-10.0
20 22 24 26 28 30 32	63.5 62.3 60.5 59.4 58.1 57.4 57.7 56.4 59.4 58.6 59.1 58.3 57.8 57.0	25 31 36 39 40 37 38 40	-9.0	20 22 24 26 28 30 32	56.7 57.0 60.8 63.9 62.4 63.2 65.0	55.2 56.8 59.9 62.5 61.7 62.3 63.1	41 41 34 30 32 31 29	-9.5	20 22 24 26 28 30 32	65.4 65.2 66.6 66.8 67.1 67.1	64.9 65.0 65.9 66.2 66.3 66.6	27 27 25 25 25 24 25	-9.7	20 22 24 26 28 30	58.5 57.8 56.6 56.7 61.1 61.3 61.0	54.0 54.1 53.6 57.7 59.2 58.3 58.0	41 42 43 36 35 35 35	-10.0
34 36 38 40 42 44 46 48	57.8 57.0 58.3 57.5 58.2 57.5 60.8 60.0 61.8 61.2 66.3 65.3 69.1 67.2 71.6 69.3	40 39 39 35 33 26 23 19	-9.0	34 36 38 40 42 44 46 48	62.9 62.3 61.7 63.0 65.3 65.8 66.1 64.8	63.8 64.3 64.8 63.8	32 33 33 31 28 27 27 28	-9.4	34 36 38 40 42 44 46 48 50	68. I 67. 3 67. 4 68. 3 68. 9 68. 9 70. 2 73. 0	66.3 66.4 67.8 68.0	22 24 24 22 22 22 22 19	-9.7	34 36 38 40 42 44 46 48	60.9 62.1 60.3 58.4 62.8 63.8 63.3	59.2 59.9 58.5 56.6 61.1 62.3 62.0 61.8	35 33 36 39 32 30 31 31	-10.0
50 52 54 56 58 7 00 02 04	76.0 73.2 79.0 76.5 77.5 75.1 73.8 71.5 69.4 68.0 66.8 64.8 61.0 59.9 57.5 56.0	12 07 09 15 21 26 34 40	-9.0	50 52 54 56 58 19 00	63.2 62.0 62.7 62.1 63.2 62.9 64.0 65.8		31 33 32 33 30 31 29 26	-9.4	50 52 54 56 58 21 00 02 04	72.1 72.0 69.0 69.8 71.7 71.0 70.9 71.1	71.1 71.0 67.8 68.1 70.0 69.6 69.7 70.1	17 17 22 21 18 19 19	-9.7	50 52 54 56 58 23 00 02 04	64.0 64.1 65.0 66.7 65.2 63.7 62.4 62.1	62.7 62.6 63.1 64.9 64.0 62.2 61.1 61.1	30 30 29 26 28 30 32 32	_9 <sub>.</sub> 9
06 08 10 12 14 16 18	54.6 52.8 43.1 41.3 44.3 43.2 41.8 39.3 38.2 36.7 38.2 36.8 41.1 39.3 43.2 41.8	22 45 23 03 01 06 10 10 06	-9.0	06 08 10 12 14 16 18	67.6 68.1 68.6 68.8 69.4 70.1 70.1	68.o	24 23 22 22 21 19 20 19	-9.4	06 08 10 12 14 16 18	68.8 68.9 68.8 67.2 69.8 69.8	67.1 67.8 67.3 66.0 68.5 69.1 66.8	23 22 22 25 21 20 24	-10.0	06 08 10 12 14 16 18	62.9 62.8 62.9 63.0 62.8 62.9	61.7 61.2 61.7 61.9 62.1 62.1 62.0	31 32 31 31 31 31 31	
22 24 26 28 30 32	39.8 37.9 40.0 39.5 43.8 42.0 44.9 44.6 44.3 43.2 51.5 50.3 51.0 51.0 53.2 52.8	08 06 23 02 22 59 23 01 22 49 49	-9.3	20 22 24 26 28 30 32 34 36	71.0 70.0 69.3 69.2 68.3 68.7 68.8	70.2 69.2 68.8 68.0	19 18 20 21 21 22 22 22 22	-9.5	20 22 24 26 28 30 32 34 36	73.8 73.3 70.0	70.2 72.9 72.1 71.6 71.6 68.1	19 18 14 15 15 21	-10.0	20 22 24 26 28 30 32 34	62.3 62.1 61.7 61.7	60.9	30 31 32 32 32 32 33 33 33	÷9.8
34 36 38 40 44 46 48 55 54 55 58	54.5 54.0 56.0 55.2 56.6 55.7 57.8 57.0 58.0 57.4 57.5 56.9 52.9 52.4	44 42 41 39 39 39 47 36	-9.3	38.4 40 42 44 46 48 50	69.2 69.1 68.8 67.7 67.7 67.2 66.1	69.0 68.8 68.1 67.2 67.0 67.0	21 21 22 23 23 24 25 26	-9.6	38 40 42 44 46 48	69.1 65.2 70.0 66.1 66.8 69.6 68.4	68.3 63.9 69.2 65.7 66.0 67.1 67.3	26 21 28 20 26 25 22 23		36 38 40 42 44 46 48 50	62.0 61.7 62.1 62.1 61.8 61.3 61.3	61.2 61.7 61.7 61.1 60.7 60.8	32 33 32 32 33 33 33 33	
52 54 56 58	59.3 59.1 62.1 62.0 63.2 62.9 63.9 63.1	36 32 30 29		52 54 56 58	66.2	65.7 66.3 65.8 64.8	26 25 25 27		50 52 54 56 58	60.9 54.0 50.6 46.9	57.2 52.2	36 45 50 59		52 54 56 58 24 00	61.1 60.3 60.0 60.1 60.3	60.6 59.9 59.6 59.7	33 34 35 35 35 35	<b>-9.</b>

Observers-W. J. P. and R. R. T., who alternated from 18h 20m to 18h 30m.

Correction to local mean time is — 3m o2s. Torsion head at oh oom read 341° and at 24h 20m read the same. Observer—R. R. T.

Chr'r time	Scale readings Left Rigi	nation		Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scal readii Left F	ngs	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	
ñ m 6 00 02 04 06 08	d d 40.1 42. 39.3 41. 39.1 41. 38.1 39. 36.8 39.	7 22 42 8 41 2 40 9 38	-5-5	h m 18 00 02 04 06 08	d 34.1 35.1 36.2 36.8 36.5	d 34.4 35.5 36.7 37.0 36.8	22 31 33 34 35 35	-6.6	h m 20 00 02* 04 06 08	54.7 5 57.3 5 58.1 5	d 52.8 53.9 56.8 57.0 58.2	° , 22 05 22 03 21 59 58 56	-10.0	h m 22 00 02 04 06 08	d d 39.9 36.2 38.0 34.3 43.7 38.8 56.3 52.3 60.9 58.3	45 38 17 08	-9.3
10 12 14 16 18 20 22 24 26	37. I 39. 37. I 39. 36. 0 38. 35. 8 37. 36. 8 38. 36. 3 38. 35. I 37. 35. I 37. 34. 9 36.	8 37 2 36 9 35 9 37 3 36 6 34 0 34		10 12 14 16 18 20 22 24 26	36.2 35.7 34.9 35.3 35.1 35.7 36.3 36.8 35.8	36.2 35.9 35.1 35.3 35.8 36.5 36.8	34 33 32 33 32 33 34 34	-6.5	10 12* 14 16 18 20 22 24 26	49.5 54.8 58.8 59.6 71.0 73.4 65.4	69.2 45.2 50.1 57.8 64.2 65.9 65.0 55.8 30.2	39 30 22 21 12 20 59 57 20 55 21 09 21 51	-9.7	10 12 14 16 18 20 22 24 26	65.2 62.5 63.2 62.7 66.9 63.0 64.2 60.9 67.2 64.1 66.8 64.3 64.0 61.9 67.2 64.6	03 00 04 22 01 21 59 21 59 22 03	-9.3
28 30 32 34 36 38	35.3 36. 34.6 36. 35.1 36. 35.6 36. 35.9 37. 34.8 36.	9 34 1 33 7 34 9 34 1 35	-6.0	28 30 32 34 36 38	35.1 34.9 34.7 33.8 33.3 34.2	35.1 34.9 34.7 33.8 33.3	33 32 32 32 30 30 31	-6.4	28* 30* 33* 34 37* 38.2	75.8 2 64.9 1 51.2 2 42.2 2	43.5 14.1 44.3 26.7 19.8	22 19 24 15 22 02 22 23 21 44 21 13	-9.5	28 30 32 34 36 38	68.8 66.3 69.5 67.8 68.0 66.2 68.4 66.5 69.2 66.2 68.1 64.0	56 54 57 56 56	-9.3
40 42 44 46 48 50	35.3 36. 35.6 36. 35.8 36. 35.8 36. 35.2 36. 35.9 36.	3 33 8 34 7 34 8 34 1 33	-6.2	40 42 44 46 48 50	34.1 33.3 33.8 33.8 32.4 32.3	34.I 33.4 33.9 33.7 32.3	31 30 30 30 30 30 28	-6.4	40* 42 44 46* 48*5	34.8 1 60.3 3 63.2 3 63.2 2 55.4 2	14.2 30.1 36.8 23.4 20.5 41.3	23 42 09 02 04 58	-9.2	40 42	70.9 64.0 57.1 51.9 49.9 43.8 56.8 50.5 56.3 51.3 57.8 51.7	22 I7 29 I8	-9.3
52 54 56 58 7 00 02 04 06 08	36.2 37. 36.8 37. 35.9 36. 34.6 35. 34.2 35. 34.6 35. 34.2 34. 34.1 34.	1 35 6 36 5 34 2 32 0 32 2 32 9 31 9 31	-6.3	52 54 56 58 19 00 02 04 06	32.9 33.8 32.1 31.1 31.2 31.2 31.9 31.9	33.0 33.8 32.8 31.2 31.3 31.9 31.9 32.5	29 30 28 26 26 26 27 27 28	-6.5	50 52* 54 56* 58.2 21 00* 02 04 06 08*	50.8 1 76.8 3 66.3 3 46.3 1 54.8 1 66.4 3 45.8 1	16.3 18.1 33.1 31.2 16.1 15.9 34.7 13.8	21 23 33 22 33 22 43 23 38 32 08 23 41 24 10	-9.0	44 46 48 50 52 54 56 58 23 00 04 04 08*	55.0 50.1 48.6 48.0 40.0 37.8 28.8 27.8 21.0 12.1 12.5 10.8 59.7 47.7 71.2 59.1 65.8 53.7	26 41 22 58 23 16 24 31 23 13	-9.3
10 12 14 16 18 20 22	32.4 33. 32.4 33. 33.2 33. 33.9 34. 34.6 35. 34.1 34. 33.8 34.	29 1 29 8 30 31 32 31 2 31	-6.4	10 12 14 16 18 20 22	33. 34.2 34.7 33.3 32.1 31.5		30 31 32 30 28 27 27 28	-6.7	10 12 14 16* 18 20 22	38.0 II 70.3 5 70.8 5 41.9 II 43.1 2 43.0 2 49.1 2	15.6 51.0 50.1 19.5 22.1 23.5 29.6 34.6	24 03 23 10 23 10 22 54 51 50 40 33	-9.0	10 12 14 16* 18 20 22	57.6 44.2 48.5 38.2 70.1 59.8 46.2 29.6 38.2 23.6 38.0 25.2 32.1 19.2 20.8 9.9	23 03 23 15 22 41 18 29 28 37	-9.2
24 26 28 30 32 34 36 38	33.7 34. 33.8 34.1 34.1 34.3 33.3 33.3 34.8 35. 33.7 34.3 33.4 33.4	31 31 30 30 32 30 30 30	-6.5	26 28 30 32 34 36	31.2 31.7 31.9 31.1 29.1 28.9	32.I 32.I 32.0 3I.3 29.I 29.0	27 27 27 26 23 23	-6.7	26 28 30 32 34 36	52.3 3 55.9 3 49.3 4 49.3 4 64.2 6 71.9 6	33.8 38.9 46.9 47.9 50.9	35 28 27 26 22 04 21 52	-9. I	26* 28 30 32 34 36*	38.5 29.0 54.0 48.0 50.9 46.5 20.3 14.6 41.3 29.0 48.2 36.7	58 31 22 35 23 24 22 56 24 28	-9.3
38 40 42 44 46 48 50 52 54 56 58	32.6 33.9 33.9 34.3 34.1 34.4 34.1 34.4 34.7 35.2 35.2 35.2	30 31 31 31 31 31 32 33	-6.6	38 40 42 44 46 48 50	29.0 29.9 30.0 29.2 29.0 29.0	29.2 30.1 30.0 30.2 29.7 29.1 29.2	23 24 24 25 24 23 23	-6.6	38 40 42 44 46 48 50	51.9 4 47.3 4 43.2 4 37.1 3 34.9 3 30.8 3	54. I 47. 6 45. 2 40. 4 34. 7 33. 3	21 58 22 24 30 37 46 49 41	-9.2	38* 40 42 44 46* 48*3 50.2	61.1 52.3 68.9 59.7 45.9 35.8 71.1 55.0 41.0 20.6 39.4 21.0 31.5 12.3 36.8 21.2	15 52 17 59 35 48	-9.3
52 54 56 58	34.1 34.4 33.7 33.9 33.0 33.1 33.5 33.8	31 30 29	,	52 54 56 58 20 00	29.2 29.8 30.7 32.1 31.8	29.5 30.2 30.9 32.3 32.1	23 24 26 28 22 27	-6.5	52 54 56 58	39.8 3 35.0 3	37.1 35.6 31.1 35.7	43 43 50 43		52 54 56* 58*2 24 00	30.6 21.2 37.1 19.8 60.3 39.0 42.8 21.7 31.2 9.3	23 38 24 10 24 58	-9.3

Correction to local mean time is — 198.

Torsion head at 15h 15m read 344° and at 20h 24m read the same.

Observer—R. R. T.

Correction to local mean time is — 22s.  $90^{\circ}$  torsion = 23'3. Torsion head at 19h 15m read 324° and at 24h 15m read 333°. Observer—R. R. T.

Dund	ay, December	o, 1903		,		Magne	t scale	LIEUL	Sunda	ay, December	0, 1903	1 1		TATS	Suct S	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sc read Left	•	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	.Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d d	. ,	0	h m	đ	d	. ,	0	h m	đ đ	0 /		h m	đ	d	۰,	•
0 00* 02* 04 06 08* 10	27.0 42.6 21.0 32.6 13.3 26.3 24.3 35.0 41.0 61.8 54.0 61.3	24 49 23 08 22 57 23 13 26 23 35	-14.6	2 00 02 04 06 08 10	18.5 18.8 16.8 13.0 10.4 9.8	18.9 19.3 17.0 13.3 10.8	23 00 23 00 22 57 51 47 46	-11.0	4 00 02* 04 06 08 10	Lost 38.5 38.0 38.6 38.1 36.8 36.0 32.3 32.0 27.3 27.3	22 52 52 22 55 23 02 09	-9.5	6 00 02 04 06 08 10	43.6 46.0 43.0 44.3 44.0 43.2	40.3 43.3 41.0 42.3 42.1 42.0	22 47 42 46 44 45 45	-10.0
12* 14 16* 18	21.4 38.3 7.0 20.6 30.0 47.4 36.2 55.0 36.5 38.5	23 39 24 04 23 39 31 42 29	-13.8	12 14 16 18 20	8.6 10.0 12.0 12.7 13.7	9.0 10.3 12.3 13.0 13.9	44 46 49 51 52	-10.6	12 14 16 18 20	24.3 23.3 22.5 22.2 23.5 23.0 29.3 29.1 35.0 34.1	15 17 16 23 06 22 58	-9.4	12 14 16 18 20	44. I 40. 3 42. 0 43. I 45. 8	41.0 37.7 39.8 41.5 45.0	45 45 51 48 46 41	-10.0
22 24 26 28 30	38.0 40.2 37.8 40.0 40.5 42.6 47.6 48.5 53.9 57.5	32 31 36 46 58	-13.0	22 24 26 28 30	15.3 16.3 17.5 15.4 16.7	15.5 17.0 18.0 15.6 16.8	55 57 58 55 57	-10.3	22 24 26 28 30	35.3 34.3 36.3 35.7 36.7 35.9 38.3 37.0 37.8 37.0	58 56 55 53	<b>-9.5</b>	22 24 26 28 30	46.9 49.6 47.5 46.1 46.3	46.1 48.9 46.1 45.0 44.7	39 35 39 41 41	-10.2
32 34 36 38 40	53.8 56.7 48.4 48.6 46.2 47.7 43.3 46.2 35.9 36.5	57 47 44 41 27		32 34 36 38 40	16.4 18.0 18.4 17.9 20.0	16.8 18.3 18.6 18.1 20.7	57 22 59 23 00 22 59 23 02		32 34 36 38 40	39.5 38.3 39.5 37.6 40.3 38.7 42.3 40.9 44.8 43.5	51 52 50 47 43		32 34 36 38 40	40.7 41.3 39.8 35.6 37.9	40.3 40.5 38.8 35.3 37.0	49 48 51 57	
42 44 46 48 50	45.0 <i>a</i> 28.0 <i>b</i> 22.5 23.6 27.3 28.0 29.6 30.6	41 14 07 14 18	-12.5	42 44 46 48 50	20.5 19.6 20.9 21.0 21.7	20.9 20.2 21.3 21.3 21.8	03 02 04 04 05	-10.2	42 44 46 48 50 52	46.8 45.6 45.3 44.6 46.2 45.5 42.5 41.3 40.2 38.3	40 42 40 46 51	-9.5	42 44 46 48 50	42.6 39.9 38.0 39.8 44.5	41.5 37.8 35.8 38.2 41.6	54 46 51 54 51 45 48	-10.3
52 54 56 58 1 00 02	33.7 34.3 39.1 40.6 35.3 37.2 34.9 37.1 29.0 31.0 20.4 24.0	24 33 27 27 18 05	-12.0	52 54 56 58 3 00 02	21.3 19.7 17 14.6 14.0 15.2	21.3 20.0 .6b 14.6 14.1 15.5	04 23 02 22 58 54 53 55	-10.0	52 54 56 58 5 00 02	37.0 34.5 36.5 33.9 34.3 32.6 28.6 26.0 25.9 23.9 24.6 23.3	56 22 57 23 00 09 13	-9.6	52 54.3 56 58 7 00 02	42.6 42.5 43.3 44.1 45.1 45.0	39.5 41.3 42.3 42.6 43.9 43.5	48 47 45 44 42 43	-10.6
04 06 08 10 12	25.7 29.2 30.2 31.6 25.0 26.3 26.3 27.7 26.2 28.2	13 19 11 13		04 06 08 10	15.5 15.0 14.7 13.7 15.0	15.5 15.0 15.0 13.9 15.5	55 54 54 52 54		04 06 08 10	24.8 22.2 21.1 19.7 27.3 25.1 29.8 29.1 35.0a	20 11 23 06 22 57		04 06 08.3 10	47·3 47.0	44.5 44.8 47.2 50.7 49.3	40 40 37 31 34	
14 16 18 20 22	30.3 32.7 35.1 36.7 29.5 30.1 26.7 27.3 30.6 30.9	20 27 17 13 19	-11.9	14 16 18 20 22	18.0 16.3 14.0 14.3 17.3	18.5 16.7 14.3 15.0	59 56 53 53 22 58	-10.0	14 16.2 18 20 22	44.0 43.2 33.0 31.0 27.9 25.9 21.2 22.6 23.4 22.6	22 44 23 02 10 18 16	-9.8	14 16 18 20 22	51.7 46.8 48.8 49.5 42.6	50.7 45.4 48.1 47.2 40.7	32 40 36 36 47	-11.0
24 26 28 30 32	29.5 30.2 30.3 31.5 18.5b 13.1 13.3 19.5a 22.7 23.3	23 19 22 59 22 51 23 01 07	-11.4	24 26 28 30 32	18.6 20.0 17.0 16.6 15.2 15.0	19.4 20.4 17.7 17.0 15.7 15.3	23 00 23 02 22 58 57 55	-9.9	24 26 28 30 32.3	22.3 21.8 31.8 30.6 32.5 31.5 39.5 39.0 42.3 40.8	18 03 23 02 22 51 47	-9.9	24 26 28 30 32	50.3 43.9 44.6 44.9 44.3 46.0	48. I 40. 5 42. 0 43. I 40. 9	35 46 44 43 45	-11.0
34 36 38 40 42 44	18.7 20.3 17.3 18.0 17.6 18.6 16.4 17.3 15.3 16.3	23 OI 22 58 59 57 55 58	-11.1	34 36 38 40 42 44	13.6 13.0 13.0 13.0	13.0 13.7	54 52 52 51 51	-9.8	34 36 38 40 42 44	42.3 40.8 42.8 40.4 38.8 38.5 39.1 38.3 30.6 30.2 28.3a 35.2 33.8	47 52 22 52 23 05 23 08 22 58	-10.0	34 36 38 40 42	48.6 41.3 41.2 41.5 42.8	41.8 45.9 38.3 39.5 40.3 40.5	43 38 50 49 48	-11.0
44 46 48 50 52 54	17.4 18.4 14.4 15.3 15.8 17.0 17.6 18.6 18.0 18.8	54 56 59 22 59		44 46 48 50 52 54	15.0 15.3 13.3 11.4 13.0	15.5 15.6 13.6 12.0 13.4	54 55 51 49 51	3.0	44 46 48 50 52 54	44.6 44.3 42.1 41.3 41.6 40.1 38.6 36.3 40.0 38.0	43 47 48 54 51	10.0	44 46 48 50 52 54	45.3 48.2 45 46.7 50.3	42.8 47.0 .6b 46.3 49.8	47 43 38 41 39 34	
54 56 58	19.2 20.2 16.6 17.3	23 01 22 57		54 56 58	13.4 13.8	14.0 14.0	52 52		54 56 58	40.6 37.8 41.5 37.8	51 50		54 56 58 8 00	44.3 45.1 44.0	42.2 44.0 40.0	44 42 46	

Observer-W. J. P.

Correction to local mean time is — 20s. Torsion head at oh oom read 336° and at 8h 55m read the same. Observer—W. J. P.

Mond	lay, De	ecembe	r 7, 190	03		:	Magne	t scale	erect	Tues	iay, D	ecembe	r 8, 190	3		Mag	net so	ale inv	erted _
hr'r time	Sc. read	lings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.	Chr'r time	Sca read	ings	East decli- nation	Tem C.
ım	d	· d	• ,	•	h m	d	ď	. ,	•	h m	d	đ	. ,		h m	d	d	. ,	•
.00 02	53.0 52.7	54·7 53·9	22 40 39	-22.7	10 00 02	52.1 49.7	58.1 55.0	22 42 37	-18.8	12 00 02	49.9 48.8	48.7 47.0	22 37 39	-18. <i>7</i>	[4 00 02	47·5 49.2	46.6 47.9	22 4I 39	-15.
04 06	54.7 51.1	56.9 53.5	43 37	!	04 06	48.2 48.6	54·3 52·3	36 34		04 06	52.3 53.8	51.0 52.3	34 31		04 06	51.6 56.8	50.I 55.I	35 27	
08 10	54.9 52.5	55.1 53.9	42 39		08	41.8	47.2 40.7	25 16		08	54.2 54.1	52.7	31 31		08	56.4	55.2 56.8	27	
12	50.4	54.3	37 38	00.0	12	36.7 42.8	46.2	25	-0 -	12	53.1	53.2 52.2	32	-18.2	12	57.6 54.5	53.6	25 30	
14 16	51.2 52.3	54.2 55.0	39	-22.0	14	39.2 43.2	43.3 46.1	20 25	-18.7	14	50.0	49.7 49.4	36 36	-10.2	14 16	54.I 54.9	53.1 53.7	31 30	-15.
18 20	45·5 47.0	48.4 49.1	29 31		18 20	38.4 41.5	43.2 45.8	19 24		18 20	50.5 47.9	50.0 47.3	36 40		18 20	56.4 57.9	55.6 55.9	27 25	
22 24 26	49.1 45.6	52.8 49.0	35 30		22 24 26	38.3 43.0	44·3 47·2	20 26		22 24 26	48.4	46.7 47.7	40 39		22 24 26	54·5 55.2	51.2 51.3	32 32	
26 28	42.9 46.2	45.2 48.0	24 29		26 28	43.8 42.8	48.1 46.5	27 25		26 28	50.9	48.6 48.8	37 37		26 28	51.5 49.1	48.2 46.6	37	
30 32	45.9 38.9	48.1 41.4	29 18	-21.3	30 32	42.3 38.0	47.I 43.I	25 19	-18.4	30 32	51.1	48.8 51.3	37 36 33	-17.8	30 32	51.7 49.2	48.8 46.8	40 36 39	-14.
34 36	36.1 46.2	37.I 47.I	13 28		34 36 38	37.0 39.3	43.7 44.3	19 21		34 36 38	54·4 47·I	51.8 43.8	31 43		34 36 38	45.2 42.7	42.7 39.2	46 50	
38 40	43.7 40.1	44.7	25 19		38 40	36.6 46.2	39.0 47.8	15 29		38 40	48.7	46.2 48.9	40 36		38 40	39.2 38.0	37.2 35.7	55	
42	40.3	42.1	20		42	44.3	46.8	27	-0 -	42	53.7	50.9	33		42	37.8	34.9	57 22 58	
44 46	40.2 45.6	41.7 47.7	19 28	-20.7	44 46 48	44.3 44.8		27 27	-18.2	44 46 48	52.9 51.1	50.2 48.8	34 36	-17.3	44	34.8 35.0	32.0 32.6	23 02 02	-14
48 50	40.2 38.9	41.1 40.2	19		50	43.9 42.9	45.9 44.9	26 24		48 50	47.7 46.6	45.7 44.8	41 43		44 46 48 50 52 54 56	35.7 36.3	33.2 34.2	01 23 00	
52 54	45.2 41.8	45.9 42.4	27 21		52 54 56	41.2 42.1	41.9 43.8	20 23		50 52 54 56	48.6 52.8	47.0 51.1	40 33		52 54	37·7 37·4	35.7 35.9	22 57 22 57	
54 56 58	39.9 41.0	40.9 43.8	19 22		56 58	41.1 42.8	42.4 43.8	2I 23		56 58	53·3 48.3	52.2 47.8	32 39		56 58	35·3 38.8	33·9 37·3	23 00 22 55	
00	45.8 35.2	49.4 37.4	30 12	-20. I	II 00 02	41.1 41.0	42.0	20 21	-17.9	13 00 02	53.9 61.2	51.8	32 19	-16.8	15 00 02	38.0 37.7	36.9 36.6	56 56	-14
04 06	37·3 39.0	38.8	15		04 06	40.9 44.I	42.7	2I 25		04 06	62.8 61.1	61.9	17 19		04 06	37.0 35.7	35.8 35.0	58 22 59	
08	46	.3a	28		08	38.2	40.8	17		08	54·4 58.8		30		08	35.6	34·3 31.8	23 00 04	
10 12	39.0 36.3	40.2	17		10 12	45.2 42.8	43.9	27		12	62.0	60.4	19	-16.3	12	33.0	29.I 27.8	08	
14 16	41.8 36.8	45.2 39.3	24 15	-19.3	14 16	38.9 40.6	43.3	17 21	-17.7	14 16	61.0 59.3	5 <b>7</b> · 3	23	-10.3	14	29.0	27.2	IO	1
18 20	35.2 38.2	39.0 40.6	14 17		18 20	42.8 37.9		24 16		18 20	55.0 49.0	47.I	30 39		18 20	28.8 26.9	27.9 25.8	10 13	
22 24	40.8	42.I 44.I	20 23		22 24	40.1	44.2	20 23		22 24	48.2 49.1	46.8 47.8	40 39		22 24	30.7	29.9 31.2 32.9	07 05	
26 28	37.7 41.8	39.7 41.8	16		26 28	41.8	44.0	23 24		26 28	50.9 52.8	47.8 49.6 51.3	36		26 28	33.1 36	. Ia	23 03 22 58	
30 32	44.6 36.0	44.8	21 25 18	-19.2	30 32	44.9 45.8 43.8 40.2 38.8	47.0 47.2	27 28		30 32	51.1 50.9	50.0	33 35 36	-16.0	30 32	37.6 38.8	36.9 38.0	56	-I4
34	36.5 32.8	41.6	16 12		34 36	43.8	45.9 41.9	26 20		34 36 38	54.2 56.0	52.9	31 27		34 36 38	38.1 35.6	37.I 34.5	55 22 56 23 00	
38	35.0	41.2	15		38	38.8	40.8 46.2	18 26		38 40	55.9 56.1	55.I 55.3	28 27		38 40	35·4 32.8	34.2 31.4	00	
41 42	28.6 34.3 31.8	34.8 41.4	05 15	ĺ	40 42	43.9 45.8	47.3	28		42	54.0	53.0	31	75.6	42	32.8	31.3	05	
44 46	34.7	44.I	12 17	-19.0	42 44 46 48	47.0 46.3 44.8	48.7 48.3	30 30	-17.0	44 46 48	50.3	49.6	36 36	-15.6	44 46 48	33.9 34.8	32.3 33.2	23 01	
48 50	41.1	49.8 50.9	26 29		50	42.6	43.9	27 23		48 50	49.1	47.3	40	1	50	36.9 36.4	35.5	58	3
52	43·3 37.8 35.0	45.2 40.3	20 14		52	50.1	50.8	34 29		52 54	47.7	47.0 46.2	40 41		52 54	36.0 35.0	35.0 33.8	22 59 23 01	
34 36 38 42 44 46 50 52 54 56 58	38.8 38.8	45.3 44.8	2I 2I		54 56.2 58	43.8	47·3 45·7 .8b	25 22		50 52 54 56 58	47.1 48.5	46.5	41		54 56 58	33·7 32·3	33.0	02	;
20	30.0	44.0		•	12 00	38	.8b .0a	15				**			16 00	30.9	30.0		

Correction to local mean time is — 13s.

Torsion head at 7h 30m read 336° and at 12h 30m read the same.

Observer—R. R. T.

Correction to local mean time is — 07s. Torsion head at 11h 30m read 347° and at 16h 20m read the same. Observer—R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Chr's time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Righ	East decli- nation	Temp. C.	Chr'r time	Scal readir Left I	ıgs	East decli- nation	Tem C.
1 m 0 00 02* 04 06 08	d d Lost 36.1 37.4 38.0 38.1 39.0 40.1 39.3 39.9	22 40 42 44 44	-17.0	h m 2 00 02 04 06 08	d 41.6 41.8 41.0 40.3 40.5	d 41.6 42.0 41.3 40.6 40.7	22 48 48 47 46 46	-14:5	h m 4 00 02 04 06 08	d d 53.5 54.1 51.1 51.9 52.1 52.5 53.5 54.3 54.3 55.9	04 05 08 0 09	-14.5	h m 6 00 02 04 06 08	53.0 5 52.5 5 58.3 6	d 47.2 54.8 55.3 50.3	22 57 23 08 08 23 17 22 53	-15.0
10 12 14 16 18 20 22 24 26	38.5 39.5 38.3 39.3 37.3 37.8 38.4 39.0 39.3 39.3 40.6 40.3 39.1 39.6 38.1 38.3 38.0 38.3	43 41 43 44 44 45 44 42	-16.5	10 12 14 16 18 20 22 24	41.2 40.8 40.6 40.0 40.5 46.0 41.5 42.3	41.4 40.6 40.2 40.8 46.3 41.8 42.6	47 47 46 46 46 55 48 49	-14.4	10 12 14 16 18 20 22 24 26	56.0 56.8 57.3 57.9 58.0 58.0 59.0 59.7 60.2 60.8 63.0 63.8 65.5 66.8 67.8 68.8 67.3 68.1	13 15 16 18 18 23 27 30	-14.5	10 12 14 16 18 20 22 24 26	42.3 4 47.8 5 41.0 4 38.1 4 39.4 4 41.7 4 38.2 4	36.0 44.0 50.8 43.2 41.5 41.5 41.9	39 22 51 23 01 22 50 46 47 50 45	-15.0
28 30 32 34 36 38 40	38.6 38.8 38.6 39.0 38.0 39.0 43.6 44.8 45.6 46.2 46.6 47.3	42 43 43 51 54 56 56	-16.1	26 28 30 32 34 36 38 40	42.3 42.2 42.3 42.0 41.4 40.6 41.2 42.4	42.6 42.3 42.5 42.3 41.4 41.0 41.6 43.0	49 49 49 49 47 46 47 49	-14.4	28 30 32 34 36 38 40	67.5 68.5 67.0 67.6 66.3 66.5 63.9 64.1 61.6 62.0 63.0 63.2 61.6 61.9	30 29 27 23 20 22	-14.7	20 28 30 32 34 36 38 40	35.6 3 40.3 4 41.7 4 36.9 3 37.6 3	37.5 37.7 13.2 14.5 19.5 15.7 18.3	41 49 51 43 43 54 58	-15.2
42 44 46 48 50 54 56 58	47.6 47.8 44.3 44.8 50.4 51.2 50.6 51.1 51.6 52.5 51.9 52.5 51.0 51.9	57 22 52 23 02 02 04 04 03	-15.6	42 44 46 48 50 52 54 56	42.4 43.9 47.5 48.1 46.3 45.8 48.0	42.6 44.6 47.5 48.6 46.7 46.0 48.2	49 52 57 58 56 54 22 58	-14.3	42 44 46 48 50 52	62.5 63.1 63.9 65.3 66.6 67.6 66.1 66.8 67.8 68.9 68.5 69.0 67.1 67.6	22 24 28 27 30 31	-14.7	42 44 46 48 50 52 54 56	39.3 4 37.7 4 38.7 4 42.3 4 44.3 4 38.1 3 29.4 3	1.6 0.6 1.7 5.1 6.8 9.8	47 45 47 52 55 45 31	-15.2
50 58 00 02 04 06 08 10.2	50.6 51.6 49.8 50.7 48.7 49.3 49.8 50.3 48.6 49.0 48.7 49.0 48.6 48.9 48.2 48.4	02 02 00 01 00 23 00 22 59 59	-15.2	50 58 3 00 02 04 06 08 10	49.3 50.6 50.0 47.5 47.0 44.9 44.6 43.6	49.6 50.9 50.0 47.9 47.0 45.3 45.0 43.8	23 00 02 23 01 22 57 56 53 53 52	-14.3	54 56 58 5 00 02 04 06 08	65.7 66.1 67.5 67.8 69.3 69.3 68.3 70.3 60.1 60.8 55.3 56.3 60.2 61.0 55.4 56.6	29 32 32 19 11 18	-14.8	56 58 7 00 02 04 06 08	35.3 3 30.5 3 28.6 3 35.4 3	3.8 7.3 2.5 0.0 6.3 1.5 8.3 6.8	34 41 33 30 40 47 42	-15.2
12 14 16 18 20 22 24	48.0 48.3 48.5 48.7 47.7 48.3 46.6 46.9 45.3 45.6 44.7 44.9 43.6 43.9	59 59 58 56 54 53 51	-15.1	12 14 16 18 20 22 24	42.3 41.0 41.1 41.6 41.9 42.3 43.3	42.7 41.3 41.4 41.8 42.2 42.4 43.6	50 48 48 49 49 50	-14.3	12 14 16.5 18 20 22	47.3 47.6 36.2 37.8 33.0 34.0 35.6 36.0 42.8 43.5 40.5 41.0 32.9 33.3	22 57 41 36 39 51 48	-14.8	12 14 16 18 20 22	33.3 3 41.6 4 46.8 4 40.4 4 36.6 3 43.2 4	4.2 2.6 8.6 2.2 9.1 6.0	39 36 50 58 48 43 54	-15.2
26 28 30 32 34 36 38	43.0 43.4 43.1 43.6 42.6 42.6 42.8 43.1 42.6 42.8 42.5 42.8 43.3 43.4	51 50 50 50 50 50	-15.1	26 28 30 32 34 36 38	44.1 44.9 45.6 46.0 46.1 46.8 48.3 49.8	44.2 44.9 45.6 46.0 46.1 47.0 48.6	55 56 57 22 59	-14.4	26 28 30 32 34 36 38	28.3 29.1 25.8 27.0 26.6 28.6 30.1 31.0 31.6 34.0 37.4 38.6 37.2 37.6	29 25 27 32 35 43	-15.0	26 28 30 32 34 36 38	43.3 44 40.9 42 44.6 44 44.4 42 44.0 44 50.2 53 48.3 5	6.1 2.8 6.5 7.2 6.0 3.4	54 49 55 55 22 55 23 06 23 03	-15.2
40 42 44 46 48 50 52 54 56 58	43.I 44.3 44.3 44.6 44.3 44.5 43.9 43.9 43.I 43.1 43.3 43.5 43.9 44.0 43.7 43.8 43.I 43.3	51 53 52 52 50 51 51 51	-14.8	40 42 44 46 48 50 52 54 56 58	51.3 52.1	5 <i>b</i> 5 <i>b</i>	23 02 04 06 11 22 17 04 03 13	-14.5	40 42 44 46 48 50 52 54 56 58	41.3 42.6 42.7 43.0 44.6 45.0 45.0a 54.3a 48.3 50.0 48.0 49.7 48.6 49.1 49.6 50.4	50 51 54 22 54	-15.o	40 42 44 46 48 50 52 54 56 58	42.4 4! 39.9 4: 45.7 4! 46.6 4! 47.8 4! 43.9 4! 44.1 4; 47.8 5	5.0 33.0 9.5 9.5 5.6 7.58 6.6	22 53 49	-15.2

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hr'r me	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca readi	ngs	East decli- nation	Temp. C.	Chr'r time	Sc read Left	ings	East decli- nation	Ten C.
m	d d	.0 ,	•	h m	d	, <b>q</b>	0 ,	•	h m	đ	d	0 ,	0	h m	đ	d	0 /	•
00 02	36.3 40.6 44.3 48.2	22 44 57	-15.2	10 00 02	32.3	37.2 39.0	22 39 42	-13.8	12 00 02		26.3 27.2	22 26 27	-13.9	I4 00 02	31.I 31.I	31.4 31.9	22 34 34	-14.
04	45.6 50.3	50		24 06	30.9	34.7	36		04	26.3	27.3	27		04	32.2	32.8	36	
06 08	35.8 42.7 41.6 48.8	46 22 55		00	23.6	34.I 28.7	36 25		06 08	26.0	27.9 26.8	27 27		об 08	33.0	33.2 32.2	37 36	
I0 I2	46.3 50.9 42.3 47.8	23 OI		10 12	26.1	30.1 28.8	29 26		I0 I2	25.4	26.7 27.8	27 26 28		10 12	31.8	32.I 31.8	36 36	
14	41.1 46.1	53	-15.o	14	18.3	22.7	17	-13.8	14	26.8	28.0	28	-14.0	14	31.3 30.8	31.8	35 35	-14.
18 16	42.8 46.7 35.9 38.8	54 43		16 18	18.2	23.2	17		16 18	26.1 25.8	26.8 26.7	27 26		16 18	29.0 29.6	31.3	33 34	
20	30.8 34.3	35		20	16.8	24.0	17		20	28.7	29.8	31		20	29.1	32.2	34	
22 24	38.6 40.2 28.7 34.1	33		22 24	17.3 23.2	21.7 26.8	15 24		22 24	29.3 27.9	30.1 28.3	32 20		22 24	26.7 26.9	33.9 34.8	33 34	
24 26 28	35.8 36.8	41		26 28	25.7	30.2	29		24 26 28	26.9	27.9	29 28 28		24 26 28	26.3	34.0	33	
30	37.8 39.9 28.2 31.8	45 31	-14.9	30	26.7	30.9 31.8	30 30	-13.7	30	27.I 27.6	28.0 28.6	20	-14.0	30	25.7 22.8	32.3 29.3	31 27	-14
32 34	31.0 32.3 33.2 35.1	34		32	32.7 34.1	37.8 38.8	40		32	31.I 33.7	31.9 34.1	35 39		32	22.9	28.7 27.3	26 23	
36	36.0 38.2	42		34 36 38	31.1	37.3	42 38		34 36 38	32.2	33.7	37	:	34 36 38	21.0	27.0	23	
38 40	33.6 35.2 34.8 36.2	38 40		38 40	34.1	39·5 34·8	42 36		38 40	29.6 30.2	31.I 31.3	33 33		38 40	21.3	29.I 30.7	25 28	
42	32.2 34.5	36		42	26.4	30.4	29 28		42	31.0	32.0	35		42	26.3	27.0	28	
44 46	32.0 35.1 34.7 37.2		-14.7	44 46 48	26.0 30.5	29.7 34.7	36	-13.7	44 46	27.8 28.0	29. I 29. 7	30 30	-14.0	44 46	25.5 26.3	26.0 26.8	26 27	-i3
46 48	38.0 40.8	46	:	48	24.8	29.9	28		44 46 48 50	28.8	29.9	31		44 46 48 50 52	27.0	28.0	29	
50 52	38.0 41.0 34.1 36.7	40		50 52	17.5 12.0	21.1 16.2	15 07		52	29.2	29.8 30.2	31 32	ĺ	50	27.6 26.1	28.2 27.0	30 27	
54 56	28.2 30.8	30		54 56	14.0	19.4 22.8	11		54 56	30.I 34.2	31.2 34.7	33 39		54 56	26.I 27.2	26.4 27.6	27 29	
58 58	27.2 31.2 31.3 36.2	30 37 38		58	19.1	23.5	18		58	32.2	32.8	36		58	24.3	25.2	24	
00 02	32.7 36.2 33.5 36.2	38	-14.3	11 00 02	20.9	25.8 25.2	2I 22	-13.7	13 00 02	31.8	32.2 $32.2$	35	-14.0	15 00 02	23.7 24.6	24.3 25.3	23 25	-14
04	31.2 34.8	36		04	23.8	27.2	25		04	32.2	32.9	35 36 38 38		04	24.4	24.8	24	
06 08	30.7 33.7 32.3 36.8	35 38		06 08	25.3	29.0 27.5	27 25		06 08	33.7 33.6	34.I 34.I	38		06 08	23.9	24.3 23.5	23 22	
10	33.1 37.2	39		10	22.2	25.8	22		10	32.6	33.1	37		10	21.6	22.0	20	
12 14	30.2 33.3 30.3 33.2	34 34	-14.2	12 14	20.9	26.9	20 25	-13.7	I2 I4	32.2 31.2	32.8 32.1	36 35	-14.0	12 14	21.7	22.3 24.3	20 23	-14
16	28.2 33.8	33	'	16 18	24.8 28.2	27.6	26		16	29.9 30.0	30.7 30.9	33		16	24.6	25.0	.25	
18 20	22.7 28.5 16.0 22.0	24 14		20	28.9	30.2 31.2	30 32		20	31.7	32.3	33 35		20	24.3 24.4	24.6 24.9	24 24 26	
22	11.1 16.9			22 24	29.0	31.1	32 33		22 24	31.2 32.0	31.8 32.6	34 36		22 24	25.5 28.0	26.1 28.6	26 30	
24 26	23.3 28.9 30.0 33.1	33		26	29.9	32.2 32.7 29.4	34		26	33.0	33.8	37		26	28.7	29.4	31	
28	27.8 32.9 22.6 25.2	32 21	-14. I	28 30	27.8	29.4 30.1	29 31	-13.8	28 30	33.0 29.7	33·3 30·4	37 32	-14.0	28 30	28.5 30.1	29.3 31.0	31	
30 32	30.4 35.0	35	14.1	32	30.1	31.7	33	23.0	32	29.0	30.2	32	-4	32	30.4	31.3	34	
34	33.8 37.1 32.4 37.8	39	,	34 36 38	29.0 28.8	30.7 29.9	31		34 36	31.9 32.2	$\frac{32.5}{32.8}$	36 36		34 36	31.2 32.2	31.7 32.8	35 37	
34 36 38	: 35.7 40.0	43		38	28.2	29.8	30		38	30.9	31.8	34		38	33.7	34.0	39 38	
40 42	40.7 45.8 38.3 43.3	43 52 48 39		40 42	26.1 26.7	27.9 27.2	27 27		40 42	30.0	30.3	32 35		40 42	33·3 34·9	33·7 34.6	38 40	
44	32.2 37.9	39	-14.0	44	25.0	25.9	24	-13.8	44	35·3 36.1	35.6	40	-14.1	44	35·4 36·5	35.9	41	-I
46	39.0 45.2	51 38 36		44 46 48	24.4 25.8	25.2 26.7	23 26		44 46 48	36.3	36.7	42 42		40 48	30.3	30.0	43	
46 48 50 52 54 56	20.5 35.8	36		50 52	27.0	27.9	27		50	35.1	35.8	40		50	35.0	35.3	41	
52	38.6 45.1 37.3 43.6	50 48		52 54	27.2 26.0	27.9 26.2	28 25		52 54 56	33.9 32.1	32.8	38 36	,	44 46 48 50 52 54 56 58	35.0 36.3 36.8	36.7 37.3	43 44	
56	32.6 38.9	4I 4I		54 56 58	26.0 26.8	27.1 27.3	27 28		56 58	30.8	31.2 30.8	34 33		56	38.8	39.4	47	'

Observers—W. J. P. and R. R. T. changed at 8h 10m; no time for alternating observations account snow drifts.

Observers—R. R. T. and W. J. P., who alternated from 14h 26m to 14h 36m.

### SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

# Tabulation of magnetic declinations observed at Teplits Bay-Continued

	Sc	ale	East			Sc	ale	East			Sc	ale	East			Sc	ale	East	
Chr'r time	read Left	•	decli- nation	Temp. C.	Chr'r time		lings Right	decli- nation	Temp. C.	Chr'r time	read	ings Right	decli- nation	Temp. C.	Chr'r time	read	lings Right	decli- nation	
hm 5 oo	d 28 0	d 39·3	• . 22 47	-14.8	h m 18 00	đ 35⋅3	d 36.3	。 , 22 42	• -15.1	h m 20 00	d 32.6	d 33·3	。, 22 38	<b>.</b> -14.6	h m	d 56.7	d 58.4	。 , 22 46	•
02 04	38.9 37.8 39.5	37.9 39.9	45 48	14.0	02.2 04	36.3 36.8	37.0 37.2	44 44 46	23.2	02 04	32.I 30.I	32.9 30.8	38	14.0	02 04	57·3 56.2	59.3 57.9	47 45	-15.0
06 08	38.7 37.8	39.0 38.0	46 45 42		06.2 08	38.5 37.3 39.8	38.5 38.0	45		06 08	29.8 28.9	30.8 29.8	34 33		o6 o8	56.1 54.5	58.0 56.1	45 43	
10 12	36.1 35.6	36.4 36.0	42	0	10 12	38.9	4I.0	49 48		10 12	27.3	28.2 28.8	30 31		10 12	54·3 57·7	56.0 59.1	42 47	
14 16 18	36.0 36.6 36.9	36.3 36.8	42 43	-14.8	14 16 18	37·3 37·3 38.0	38.0 37.7 38.7	45 45 46	-15.1	14 16 18	26.3 31.3 37.6	27.3 33.8 45.0	29 38 22 51	-14.7	14 16 18	54.0 53.3	56.0 55.3	42 41	-14.
20 22	36.8 36.8	37.1 36.9 36.9	44 44 44		20	38.5 37.0	39.2 37.3	47 44		20*	48.2 56.1	60.9 74.9	23 12 30		20 22	53.5 52.9 52.7	55.1 55.3 55.0	4I 4I 40	
24 26	37.2 38.4	37.4 38.8	45 47		24.2 26	36.3 35.5	38.3 38.8	45 44		24.2 26		56.8 68.0	15 23 21	J1.	24 26	52.9 51.9	54.8 54.1	40 39	
28 30	38.3 38.2	38.5 38.4	47 46	-I5.0	28 30	35.0 35.2	38.2 39.2	43 45 48	-15.0	28 30	24.2 42.2	34.8 74.0	22 33 23 18	-14.8	28 30	52.8 53.4	55.2 55.8	40 41	-14.
32 34	36.7 35.3	37.0 35.6	44 42		32.5 34 36	37.0 37.2	4I.4 4I.I	48		32* 34	38.7 38.3	70.8 72.8	22 I3 I4		32 34	52.3 52.2	54.0 53.8	39 39	ľ
34 36 38 40	34.0	34.0 34.0	40 39		38	38.1	42.I 40.0	50 47		34 36* 38 40	19.5 7.7 8.1	65.9 47.3	35 11		36 38	52.7 53.4	53.9 55.1	39 41	
42	35.3 36.0 36.9	35.6 36.0 37.0	42 43	≟15.1	40 42	35.9 34.5 35.1	37.9 39.0 37.3	45 44 44	-14.9	42	13.7	51.1 54.8 58.6	15 22 31	-14.8	40 42	54.0 56.8 56.3	55.9 57.5 58.5	42 45 46	-14.
44 46 48	38.0	38.0 38.6	44 46 46	υ. ¢	44 46 48	34.I 34.I	36.2 36.1	42 42	14.9	44.2 46 48	37.8 Lo	69.7	53	14.0	44 46 48	56.3 59.3	57.9 61.2	45 50	-14.
50 52	38.6 38.3	39. I 38. 7	47 47		50 52	34·4 34·7	36.3 36.3	42 43		50* 52	35.6 4I.I	43.9 55.2	18 32		50 52	56.1 59.1	59.1 60.9	46 50	
54 56	35.2	36.8 35.6	44 42		54 56	34.7	36.3 36.9	43 43		54 56	43.9 47.6	52.3 56.9	32 38		54 56	61.6 64.1	64.7 66.9	56 22 59	
58 00 02	34·3 32.6 30.9	34.8 33.3 31.3	40 38	-15.1	58 19 00 02	35.8 35.0	37.2 36.3 35.8	44 43 42	-14.8	58 21 00 02	34.1 36.0 39.9	41.9 45.9 48.3	16 20 25	-14:9	58 23 00 02	64.3 67.0	68.9 70.2 63.9	23 OI 23 O4	-14.
04 06	31.6	32.4 37.5	35 36 45		04 06	34.3 34.8 35.1	36.2 36.3	42 43		04 06	42.3 41.8	50.3	29 28		04 06	55.1 51.7	57·3 54·7	22 54 45	
08 10	35.0 30.4	35.6 30.6	42 34		08 10	35.I 35.0	36.3 36.1	43 42		08 10	39.8 42.7	48.8 50.8	25 29		08	49.3	52.2 52.2	40 36 37	
12 14	25.3 25.1	26.4 25.6	27 26	-15.1	I2 I4	35.2 35.1	36.2 36.1	43 43	-14.6	12 14	44.1 44.8	51.9 52.2	32 32	-14.9	12 14	51.9 54.0	54.3 56.1	40 43	-14.
18 18	26.I 24.5	27.I 26.3	28 26		16	35.6 35.5	36.6 36.6	43 43		18	45·5 47·I	52.8 53.9	33 35		16 18	55.2 58.8	57.2 61.0	45 51	
20 22 24	38.3	45.8 54.4 61.0	22 52 23 04 16		20 22 24	35.6 35.2 34.5	36.6 36.1 35.6	43 43 42		20 22	47.8 48.1 48.7	54·3 54·3	35 36 36		20 22	59.7 57.9	61.5 59.8	52 49 46	
26 28	55.0 55.3 49.3	61.5 60.1	17		26 28		35·3 34·7 34·3	4I 40		24 26 28	49.2 50.1 50.6	54·5 54·9 55·4	37 38		24 26 28	56.3 57.6 53.6	58.3 59.1 55.0	48 48 42	
30 32	43.2	51.0 44.5	23 05 22 55 48	-15.1	30 32	34.2 33.9 33.7 33.6	34.3	40 40	-14.4	30 32	52.0	55.7 56.8	39 39 41	-15.0	30 32	54. I 57. 0 58. I	55.4 58.2	42 47	-14.
34 36 38 40	39.0 34.8	39·4 35·2	41		34 36 38	33.7 33.2	34.2 33.9 33.8	40 39		34 36	54.0	58.3 58.9	44 45		34 36	58.1 60.2	59.2 61.1	42 47 48 52	
38 40	32.2	33·3 31.0	37 34		40	33.3 33.8	34.2	39 40		38 40	54.7 54.2 54.1	58.3	44 45		38 40	50.2 58.8 56.8 57.2	59.8 57.8	50 46	
42 44 46	29.4 30.4 31.3	30.3 31.0 31.8	33 34 35	-15.0	42 44 46 48	34.9 35.3 33.9	35.3 35.9 35.1	42 43	-14.4	42 44 46	54.2	58.1 57.8	44 44	-15.0	42 44	57.2 57.0	58.0 58.0 57.3 58.1	47 47 46	-14.
48 50	32.4	33.0 34.3	35 37 40		48 50	33.3	34.4 34.7	41 40 <b>40</b>		34 36 38 40 44 46 48 50 52 54 56 58	54.7 54.2 54.2 55.7 55.9	57.7 58.7 58.6	44 44 46 46		34 36 38 40 42 44 46 48 55 54 56 58	57.0 56.8 57.2 57.1	57·3 58.1 57.8	40 47 46	
42 44 46 48 50 54 56 58	33·9 35·5	34.3 36.0	40 42		50 52 54 56 58	33.5 33.2 32.2	34. I 33.7	39 38 38		52 54	56.0 55.5	58.4	46		52 54	56.0 56.8 56.9	56.8 57.2	45 46 46	
56 58	35.3	35.8 35.6	42 42		56 58	32.3 33.0	33.I 33.7	38 39		56 58	55.5 56.3 56.3	58.1 58.7 58.6	45 46 46		56 58	56.9 55.9	57.2 56.3	46 44 44	

Observers—W. J. P. and R. R. T., who alternated from 18h 30m to 18h 36m.

Correction to local mean time is + 36s. 90° torsion = 25.'0. Torsion head at oh oom read 5° and 24h 15m read 345°. Observer—R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Thur	sday, Decemb	er 10, 19	903		Ma	ignet s	cale inv	erted	Frida	y, Dec	ember	11, 1903	3		1	Magne	t scale	erect.
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
h m 6 00	d d 57.2 53.6	。 , 22 32	-17.4	h m 18 00	d	d	0 ,		h m	d	d	0 ,	0	h m	d	d	0 ,	•
02 04	56.3 52.9 56.1 53.0	33	-1/.4	02	54.6 55.7	54.2 55.3	22 33 32	-14.7	20 00	51.1	51.9 52.6	22 32 33	-15.0	22 00 02	54.2 54.2	54.6 54.4	22 36 36	-12.0
06 08	55.8 52.8	33 34		04 06	56.1 55.1	55.I	31 32		04 06		53.2 53.9	34 35		04 06	53·3 54. I	53.8 54.2	35 36 38	
10	55.5 53.0 55.8 53.2	34 33		08 10	55.0 54.6	54.8 54.3 55.8	33 33		08	53 53.8	.2b 53.8	34 35		08	55.7 53.8	56.0 54.1	38 35	
12 14	55.7 53.3 55.1 53.0	33 34	-17.0	12 14	55.9	55.8 53.9	31 34	-14.6	12 14	53.I 53.I	53.2 53.1	34 34	-14.3	12 14	52.5 52.7	52.8 52.0	33 34	-12.0
16 18	55.1 53.2 54.6 52.9	34 34		14 16 18	53.9 54.6	54.2	33 31		14 16 18	53.2 53.0	53.2 53.1	34 34		16 18	53.2 53.1	52.9 53.8 53.3	35 34	
20 22	54.1 52.4 54.2 52.8	35 35		20	55.7 55.8	55.5 55.8	31		20	52.7	52.8	33		20	52.9	53.2	34	
24	54.7 53.3	34		22 24 26	55.2 55.1	55.2 55.1	32 32		22 24	52.2 52.2	52.3 $52.2$	33 33		22 24	53.6	54.2 51.3	35 31	
26 28	54.7 53.2 54.3 53.2	34 34		28	55.5 55.1	55.3 55.0	32 32		26 28	52.9 53.1	52.9 53.1	34 34		26 28	50.8 51.2	52.I 52.2	31 32	
30 32	55.1 54.0 56.2 55.3	34 33 31	-16.6	30 32	55.4 55.1	55.2 54.9	32 32	-14.2	30 32	53·4 53·2	53.7 53.2	35 34	-13.7	30 32	50.2 50.2	51.2 51.3	30 30	-12.0
34 36 38	52.8 52.2 54.2 53.0	36 35		34 36 38	54·4 53·9	54.1 53.6	34 34		34 36 38		.ob 51.8	34 32		34 36 38	49.4 51.1	50.2 51.9	29 32	
38	56.4 55.7	31		38	53-4	53.I	35		38	51.9	51.9	32		38	52.9	53.4	34	
40 42	55.9 55.2 55.9 55.3 55.8 55.2	32 31		40 42	53.6 53.9	53.2 53.7 53.6	35 34		40 42	51.7 50.9	51.8	32 31		40 42	50.1 50.1	50.6 50.9	30 30	
44 46	55.8 55.2 55.7 55.0	32 32	-16.2	44 46	53.9 53.0	53.6 52.8	34 36	-14.0	44 46 48	51.2 51.9	51.8 52.4	32	-13.3	44 46 48	52.9 52.2	53.I 52.9	34 33	-11.9
44 46 48 50 52 54 56 58	55.7 55.0 56.8 56.2 58.1 57.7	30 28		44 46 48 50	53.2 52.9	53.1 52.7	35 36		48 50	52.I 52.3	52.4 $52.7$	33 33		48 50	52.3 53.2	52.9 53.9	33 35	
52	55.7 55.2	32 32		52 54 56	52.7	52.2 52.2	37		50 52	52.8	53.1 52.8	34		50 52	52.8	53.2	34	
54 56	55.7 55.2 55.7 55.2	32		56	52.4 53.7	53.3	35		54 56	52.3 52.9	53.1	33 34		54 56 58	5T.0	$\frac{52.4}{52.8}$	33 33	
58 1 <b>7 0</b> 0	56.0 56.0 56.8 56.3	31	-15.8	58 19 00	52.9 52.8	52.7 52.6	37 35 36 36	-13.9	58 21 00	53.2 53.1	53.1 53.1	34	- <b>I</b> 2.9	23 00	52.8 51.8	53.2 52.3	34 32	-11.8
02 04	57.0 56.8 56.5 56.1	30 30		02	53.2 53.0	53.I 52.7	35 36 36 36		02 04	53.1 52.9	53.I 53.0	34 34		02 04	53.8 53.9	54.2 54.0	32 36 36 38 35 35 36 38	
o6 o8	55.2 55.1	32		04 06 08	53.0 53.0	52.8 52.9	36		06 08	53.I 52.9	53.I 52.9	34 34		o6 o8	55.0 53.8	54.9 55.8 54.1	38	
10	54.7 54.3 55.8a	33 31		10	53.2	53.0	35		10	52.2	52.2	33		10	53.6	53.0	35	
12 14	56.9 56.9 54.6b	30 33	-15.5	12 14	53.8 53.1	53·3 53.0	35 35	-13.9	12 14	52.4 52.7	52.6 52.9	33 34	-12.7	12 14	54.1 55.2	54.8 55.9	38	-II.7
16 18	54.7 54.7 57.0 57.0	33 29		16 18	53.7 53.9	53.2 53.6	35 34		18	53.4	53.7 54.1	35 36 36		16 18	54.7 55.2	55.3 56.0	37 38	
20 22	55.5 55.3 54.7 54.2	32 33		20 22	54.1		34 34		20 22	54·5 54·2	54.8 54.2	36 36		20 22	55.8 56.2	56.2 56.9	39	
24	55.4 55.2	32			54.1 54.2	54.0	34		24 26	54.2 54.1	54·4 54·2	36 36		24 26 28	55.3	55.9 57.8 58.8	39 38 41	
26 28	55.3 55.1 54.8 54.2 54.8 54.2	32 33		24 26 28	54.0	54.1 53.9	. 34 34 35		28	54.2	54.3	36		28	55·3 57·2 57·9 56.8	58.8	42	
30 32	54.8 54.2 54.2 53.9	33 33 34	-15.0	30 32	54.0 53.8 53.8 53.8	53·3 53·4	35 35	-13.9	30 32	54.I 53.9	54.I 54.0	36 35	-12.3	30 32	56.8	57.0 56.9	40 40	-11.7
34	55.I 55.I 57.3 57.I	32		34 36 38	53.8	53.6	34 35		34 36 38	53.8 53.8 53.8	53.8 53.9	35 35		34 36 38	56.3 56.3 54.8 54.8 53.8	. 1a 55. 1	39 37	
38	56.1 55.7	29 31		38 40	53.5 53.8 53.7 53.8 53.8	53.2 53.4 53.5	35 35		38 40	53.8	53.9	35 34		38 40	54.8	55.I 54.0	37 35	
40 42	55.0 55.0 56.1 56.1	32 31		42	53.8	53.7	34		42	53.1 52.8	52.9	34	70.0	42	52.0	53.0	34	
44 46	56.0 55.9 54.2 54.2	31 34	-14.9	42 44 46 48	55.9	53.4 53.8	35 34	-13.9	44	52.4 53.0	53.I	33 34	-12.0	44 46 48	54.9 53.4	55.0 53.8	37 35	-11.7
48	54.8 54.8	33 29		48 50	54.0	54.0 53.8	34 34		48 50	53.0	53.I	34 35		48 50	53.2 56.1	53.9 56.4	35	
52	57.1 57.0 56.1 56.1	31		52	53.9 54.7	54.3	33		52	53.2 53.8 54.2	54.0 54.6	35		52	56.0 54.1	56.2 54.6	39	
30 32 34 36 38 40 44 40 50 50 50 50 50 50 50 50 50 50 50 50 50	54.7 54.2 53.2 53.2 53.8 53.7	33 35		52 54 56 58	54.I 54.I	54.0 53.8	34 34		42 44 46 48 50 52 54 56 58	54.2 54.7 54.8	54.9	37		50 52 54 56 58	54.4	54.7	39 36 36 36 36	
58	53.8 53.7	34		20 00	53.8 53.9	53·3 53·2	35 35	-13.8	50	54.0	54.9	37		24 00	54.2 54.0	54.5 54.8	36	-11.

Correction to local mean time is + 1m 49s. 90° torsion = 24.'6. Torsion head at 15h 40m read 347° and at 20h 20m read 341°. Observer—W. J. P.

Correction to local mean time is — 20s. Torsion head at 19h 45m read 344° and at 24h 15m read the same. Observer—R. R. T.

Chr'r time	Scale readings Left Righ	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ings	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp
ı m	d d	0 ,	0	h m	d	d	0 ,	0	h m	đ	d	0 /	0	h m	đ	đ	• ,	
00* 02	55.0 52.5 56.1 54.	39 7 38	-15.3	2 00 02	55.9 56.8	55.9 56.3	22 38 37	-12.9	4 00	53.1 52.8	54.2 54.3	22 42 42	-11.8	6 00 02*	51.2 48.5	57.2 54.0	22 43 23 17	~II.2
04 06	56.7 54. 55.2 53.			04 06	55.2	55.1	37 39	l l	04 06	53.2 51.1	54.9 52.3	43 39		04 06	52.0 46.1	57.2 49.8	22	
80	55.6 54.	1 39		08	54.4	54.2	40		08	51.1	52.8	39		08	51.0	56.5	12 21	
I0 I2	54.1 52. 51.3 50.			10 12	54·7 54·7	54·3 54·5	40 40		I0 I2	50.9 49.9	52.I 50.9	39 37		10 12	55.8 54.2	59.1 57.9	27 25	
14	52.2 51.	3 44	-15.0	14	54.2	54. I	40	-12.8	14	50.9	52.0	37 38	-11.6	14	58.1	60.4	30	-11.2
18 18	55.3 53. 58.8 57.			16	54·3 54·4	54.2 54.2	40 40		16 18	51.2 51.9	52.2 52.9	39 40		16 18	54.0 55.1	56.8 56.3	24	
20	55.9 55.	1 38		20	54.0	53.9	41		20	51.9	53.0	40		20	55.8	57.7	24 26	
22 24	53.5 52.	4 42		22 24 26	54.1	54.0 53.8	4I 4I		22 24 26	52.2 54.6	53.I 55.9	40 44		22 24	46.5 58.	48.0 0a	11 28	
26 28	54·3 53· 56.6 55.			26 28	53.8	53.7 52.9	41 42		26 28	57.7 58.6	55.9 58.8 59.4	49 50		26 28	61.0 56.9	62.0	33 28	
30	56.8 55.	37	-14.6	30	52.0	51.9	44	-12.7	30	57.8	58.8	49	-11.5	30	54.0	58.9 56.2	23 18	-11.2
32 34	54·3 53· 53·2 52.			32 34	52.6 52.8	52.3 52.8	43 42		32 34	58.8 59.1	59.5 60.6	51 51		32 34	51.1	52.8 52.5	18	
34 36 38	51.9 51.	45		34 36	53.1	53.0	42		34 36 38	59.4	60.2	52		36	56.1	56.8	25	
40	53.I 52. 56.3 55.			38 40	53·7 54·2	53.2 54.1	42 40		38 40	59.8 58.1	60.8 58.9	52 50		38 40	54.7 48.2	55·3 49·9	23 14	
42	56.5 56. 54.7 54.	37	-14.2	42	54.I 54.2	53.9	41	10.7	42	57.0	57.9	48		42	49.0	50. I	14	
44 46 48	54.0 53.		-14.2	44 46	55.2	54.1 <b>55</b> .1	40 39	-12.7	44 46 48	56.3 55.9	57.1 56.2	47 46	-11.5	44 46 48	42.0	44.3 47.2	04 IO	-11.4
48 50	54·3 53· 54·2 53·			48 50	56.1 56.9	56.1 56.8	37 36		48 50	54·3 54·1	54.8 54.8	43		48 50	48.1	48.9	13	
52	54.2 53.	41		52	57.1	56.9	36		52	52.8	53.I	43 41		52	46.9 45.6	47.8 45.8	08	
54 56	53.8 53. 52.8 52.			54 56	58.1 57.8	58.0 57.3	34 35		54 56	52.2 51.3	52.8 52.0	40 39		54 56 58	50.1 48.1	50.8 50.1	16	
58	52.9 52.	5 43	- 12.0	58	56.9	56.8	36	TO 4	58	52.2	52.9	40			44.2	44.7	14 06	
00 02	55.1 54.	39	-13.9	3 00 02	56.5 55.9	56.2 55.8	37 38	-I2.4	5 00 02	53.0 52.2	53·4 52·3	4I 40	-11.4	7 00 02	49.0 46.9	50.3 47.7	15	-11.4
04 06	56.1 56. 56.9 56.	37		04 06	55.7 54.8	55·4 54.2	38 40		04 06	53·3 54.8	53.8	42		04 06	45.I	45.6	23 08	
80	57.2 57.	1 36	,	08	52.9	52.5	43		08	54.3	55.1 54.7	44 43		08	38.2 37.	38.4 2a	22 57 22 55	
IO I2	57.7 57. 57.8 57.	5 35		10 12	52.3 52.1	52.1 51.9	43 44		I0 I2	56.0 57.7	56.2 58.2	43 46 49		10 12	54.9 34.8	55.1	23 23	
14 16	58.2 58.	34	-13.4	14	52.1	51.9	44	-12.3	14	58.8	59.0	50	-11.3	14	40.6	37·5 41.0	22 53 23 01	-11.4
18	57.9 57. 57.2 57.	r   36		18	52.2	52.0 53.1	44 42		16 18		60.2 61.1	52 53		16 18	46.9 47.3	48.9 48.4	12 12	
20 22	56.9 56. 56.2 56.	36		20 22	53·9 53·9	53.2 53.8	4I 4I		20	63.	7a	53 58	l	20	40.1	41.0	23 00	
24	56.1 55.	9 37		24	53.9	53.7	41		22 24	65.2	63.9 65.2	22 58 23 00		22 24	36.8 37.7	38.7 39.6	22 56 22 57	
26 28	56.3 56. 56.2 56.	37 1 37		26 28	52.9 52.4	52.7 52.1	43 43		26 28	66.6	67.0	02		26 28	40.2	42.0	23 01	
30	50.3 50.	37	-13.2	30	51.9	51.7	44	-12.1	30	67.1 66.2	66.8	03 02	-11.2	30	33·3 30·7	35·3 33·2	22 50 47	-11.4
32 34	56.1 56. 55.7 55. 55.8 55.	5   38		32 34	51.9 52.1	51.8 52.0	44 44		32 34	65.0 63.3	65.9 64.0	23 00 22 58		32	33·4 26.8	35.2 30.0	50 22 41	
34 36 38	55.8 55. 56.1 56.	7 38		34 36 38	52.9 53.7	52.8	43		34 36 38	63.3 63.8	64.3 63.8	22 58 58		34 36 38	39.3	40.7	23 00	
40	55.7 55.	2 38		40	53.I	53.2 53.0	42 42		40	62.6	62.9	57 56		38 40	30.4 32.3	33.0 34.8	22 46 49	ľ
42 44	54.9 54. 54.4 54.	39 40	-13.0	42 44	53.9 53.8	53.5 53.6	4I 4I	-12.0	42	62.6 62.0	62.0	56		42	37.2	40.I	57	_ , , ,
44 46 48 50 52 54 56 58	53.7 53.1	7 41		44 46 48	53.9 54.8	53.5	41		44 46 48 50	62.4	62.8	55 56	-11.2	44 46 48	36.2 31.2	37·9 33·7	55 48	-11.5
40 50	53.9 53.5 54.1 54.			48 50	54.8	54.6 54.8	40 39		48 50	59.9 67.	61.0	22 53 23 04		48 <b>5</b> 0	31.2 34.8 36.6	37.7	53 55	
52	55.2 55.0 56.1 56.	39		52	55.1	55.0	39		52	70.3	71.1	09		50 52	31.2	37.2 32.5	47	
54 56	56.2 56.	37		54 56	54.7 54.8	54·3 54·7	40 40		52 54 56 58	71. 73.	8a	09 14		52 54 56 58 8 00	27.8 28.0	28.3 29.0	41	
58	55.8 55.	37 38		58	55.1	55.0	39		58	76.	2a	23 17		58	24.5	28.0	41 38	

Observer-W. J. P.

Correction to local mean time is — 45s. Torsion head at oh oom read 350° and at 9h 30m read the same. Observer—W. J. P.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Mond	lay, December	r 14, 190	3		Ma	gnet s	cale inve	erted	Tues	day, De	ecembe	r 15, 19	03		:	Magne	t scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sc read Left	ings	East decli- nation	Temp. C.	Chr'r time	Sc. read Left	_	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.
h m 8 oo	d d 53.4 52.8	。 , 22 50	-18.0	h m	d 55.1	d 54.8	22 56	• -16.9	h m	d 35.9	d 34.7	。 , 22 44	-20.0	h m	d 32.2	d 32.4	。 , 22 39	• -17.1
02 04 06 08 10	55.6 54.3 58.3 56.7 53.9 52.8 54.8 53.8 53.3 52.3	22 59 56 52 59 57 22 59		02 04 06 08 10	56.1 47.2 59.5 59.8 58.1	55.6 46.8 59.1 58.7 57.3	22 55 23 09 22 49 49 52	2019	02 04 06 08 10	33.2 32.3 33.9 34.0 33.2	34.8 33.7 34.7 35.1 34.1	42 40 42 42 41		02 04 06 08 10	30.8 30.9 31.1 32.9 32.2	31.0 32.2 32.1 33.3 32.8	37 38 38 40	
12 14 16 18 20 22	51.5 49.7 48.7 47.3 51.5 50.2 53.8 52.9 52.9 52.0	23 02 03 07 23 03 22 59 23 00	-17.8	12 14 16 18 20 22	59.0 58.2 58.7 58.2 59.2 59.3	58.0 57.5 57.9 57.2 58.2 57.4	51 52 51 52 50 52	-16.7	12 14 16 18 20 22	32.8 33.2 34.8 35.8 36.0 35.1	33.4 34.2 35.4 36.7 36.8 36.0	40 41 43 45 45 44	-19.7	12 14 16 18 20 22	31.7 31.4 32.3 31.8 33.3 33.3	32.1 31.8 32.7 32.9 34.0 33.9	39 38 38 39 39 41 41	-17.0
24 26 28 30	54.9 54.0 57.2 56.0 57.2 56.2 53.9 53.1	22 57 54 53 22 58	-17.8	24 26 28 30	58.2 58.7 59.0 61.3	57.4 57.9 58.1 60.3	52 51 51 47	-16.6	24 26 28 30	30.7 27.8 28.8 29.2	31.1 28.3 29.3 30.4	37 32 34 35	-19.2	24 26 28 30	34.2 34.2 32.2 31.8	35.0 34.8 32.9 32.8	43 43 39 39	-16.9
32 34 36 38 40	49.7 48.7 49.1 47.7 47.4 46.3 46.3 46.1 48.4 48.2	23 05 06 09 10 07		32 34 36 38 40	62.0 61.8 61.3 61.1 61.0	60.8 60.6 60.3	47 46 46 47 47 47 48		32 34 36 38 40	33.3 34.8 36.1 36.8 34.6	37.2 35.2	41 43 46 46 43		32 34 36 38 40	33.2 33.1 33.2 32.9 32.2	34.0 33.9 34.1 33.9 33.2	41 41 41 41 40	
42 44 46 48 50	46.3 45.0 49.2 48.0 49.8 49.3 49.2 47.9 50.0 49.3 51.7 50.2	06 05 06 04 02	-17.7	42 44 46 48 50 52	60.7 61.0 61.8 62.3 63.0 62.0	61.1 61.7	48 47 46 45 44 46	-16.5	42 44 46 48 50 52	33.2 32.2 32.1 31.9 33.3 34.0	32.5 34.1	39 39 39 41 42	-19.0	42 44 46 48 50 52	33.1 33.0 33.0 32.9 32.9 32.2	33.7 33.6 33.4 33.3 32.9	41 41 40 40 39	-16.7
50 52 54 56 58 9 02 04 06	50.7 49.3 48.1 47.9 46.1 46.1 48.1 48.0 47.1 46.8 46.4 46.4 48.1 47.4	04 07 10 07 09 10 08	-17.6	54 56 58 11 00 02 04 06	61.9 61.2 61.5 62.6 63.0 63.9 62.9	61.3 60.8 61.1 62.0 62.7 63.2	46 47 46 45 44 43	-16.4	54 56 58 13 00 02 04 06	33.8 33.3 32.5 32.7 32.1 32.5 33.0	34.4 34.2 33.0 33.0 32.6 32.9	42 41 40 40 39 40 41	-18.4	54 56 58 15 00 02 04 06	32.0 32.1 31.9 32.7 32.2 32.7 33.2	32.4 32.3 32.2 33.0 32.8 33.1 33.9	39 39 38 40 39 40	-16.6
08 10 12 14 16 18	49.9 49.2 52.9 51.9 49.3 48.8 47.8 47.1 50.7 50.1 47.9 47.1	05 00 05 08 03 08	-17.3	08 10 12 14 16 18	63.8 63.0 62.3 63.0 62.7 62.3 63.5	63.3 62.7 62.0 62.7 62.1 61.9	43 44 45 44 44 45	-16.2	08 10 12 14 16 18	34.7 35.1 33.6 31.3 31.8 32.0 32.8	35.1 35.8 34.0 32.0 32.1 32.1	43 44 41 38 38 38	-18.o	08 10 12 14 16 18	33.2 32.7 32.0 32.1 32.1 31.6 32.2	33.8 33.1 32.3 32.9 32.7 31.9 32.7	41 40 39 39 39 38 38	-16.3
20 22 24 26 28 30	46.9 46.5 49.3 48.2 49.2 48.7 51.8 50.8 52.8 51.5 53.2 52.2 53.1 52.2	09 06 06 02 01 00 23 00	-17. I	20 22 24 26 28 30 32	63.0 62.7 62.9 62.6 62.2 62.1	63.0 62.4 62.1 62.3 62.2 61.9	43 44 44 44 44 45 45	-16.2	22 24 26 28 30 32	32.1 31.6 32.3 32.6 34.1 34.8	32.5 31.7 32.7 32.8 34.7 34.9	39 38 39 40	-17.8	22 24 26 28 30 32	28.3 27.2 24.2 25.9 28.6 28.8	28.7 27.4 25.0 26.1 28.8 28.8	33 31 27 29 33 34	-16.0
34 36 38 40 42	56.2 55.1 58.9 57.7 58.0 56.9 55.9 54.2 57.0 55.9 57.6 56.8	22 55 51 52 56	-17.0	32 34 36 38 40 42 44	62.2 62.3 62.0 61.3 62.1 62.1	61.9 62.1 61.8 61.1 61.9 62.0	45 45 45 46 45 45	-16.2	34 36 38 40 42 44	33.1 32.3 32.6 31.3 29.9 30.1	33.3 32.8 32.8 31.8 30.1 30.1	39 40 38 35 36	-17.3	34 36 38 40 42	28.1 30.1 31.5 31.8 31.8 32.1	28.9 30.2 32.0 32.1 32.1 32.9	33 36 38 38 38	
3 3 3 5 3 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5	53.1 52.0 57.9 57.3 56.9 56.1 56.6 56.0 56.8 56.1 55.1 54.7	54 53 59 52 54 54 54 56		42 44 46 48 50 52 54 56 58	63.8 63.8 63.2 62.7 62.7	62.2 63.3 63.2 63.0 62.4 62.1	45 43 43 43 44 44		34 36 38 40 44 44 46 50 52 55 55 58	32.I 30.4 30.I 30.3 31.9	30.8 30.2 30.9 32.6	39 36 36 36 36		44 46 48 50 52 54 56 58	32. I 30. 6 29. I 31. I 33. 9 33. 7	31.3 29.7 32.1 34.3 33.9	39 39 37 34 38 42 41	
58	57.0 56.3	54		58 12 00	65.2 65.1	64.8 64.9	40 40	<b>–16.0</b>	58	32.1	32.2	39		16 00	32.9 32.7	33.1 33.8	40 41	-15.6

Correction to local mean time is — 03s. 90° torsion = 24.'1. Torsion head at 7h 30m read 350° and at 12h 20m read 356°. Observer—R. R. T.

Correction to local mean time is — 18s.  $90^{\circ}$  torsion = 24.'9. Torsion head at 12h 00m read 351° and at 16h 00m read 341°. Observer—R. R. T.

			mber 16,	-903	1		O 3	cale inv					mber 16	, -303			3.101 3	cale in	
hr'r ime	Scread read	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	
m 00.2	đ	d	. ,		h m	đ	đ	0 ,	•	h m	d	d	۰,		h m	d	d	۰,	
02*	40.3 38.3	39. I 37. I	22 49 53	-20.5	2 00 02	39.2 33.6	37.8 33.0	22 51 59	-17.9	4 00	46.3 44.3	45·3 43·4	22 40 43	-16.9	6 00	30.2 28.8	29.8 28.2	23 05 07	-16.2
04 06	39·5 42.2	39.0 38.6	50 48		04 06	36.6	35.8	55 56		04 06	42.7	42.3	45		04	31.0	30.6	03	
08	42.3	40.0	47		08	35.8 36.6	35·4 36.0	55	,	08	40.3	39.9 39.8	49 49		o6 o8	33.0 35.3	$32.3 \\ 34.7$	23 00 22 57	
10	44.4	41.3	44		10	37.0	36.8	54		10	41.5	41.3	47		10	36.0	35.3	56	
12 14	45.0 46.2	42.6 44.3	43 41	-20.0	12 14	38.6 38.1	38.2 37.5	52 52	-17.8	I2 I4. I	44.4 44.6	44.0 44.0	42 42	-16.8	12 14	36.0	35.1	56	
16	46.2	43.5	41	20.0	16	40.2	39.9	49	-17.6	16	45.0	44.5	42	10.0	16	35·3 34.0	34·3 33·2	57 22 59	-16.5
18 20	43.4	42.2	44		18	40.4	40.0	49 48		18	43.3	43.0	44		18	33.0	32.0	23 01	
22	43.7 42.7	42.3 41.6	44 46		20 22	41.2 39.7	40.6 39.3	48 50		20 22	41.3	40.9 41.5	47 46		20 22	32.2 33.5	31.0 32.6	23 00	
24	43.0	41.8	45 46		24	39.9	39.5 38.8	49		24 26	41.6	41.3	47		24	34.1	33.3	22 59	
26 28	42.3 42.6	41.3 42.1	46		26 28	39.2	38.8	50		26 28	41.6 42.0	41.3 41.6	47		26	34.2	33.3	59 58	
30	39.3	38.7	45 50	-19.5	30	38.5	38.1 38.0	52 52	-17.7	30	42.2	41.0	46 46	-16.7	28 30	34.6 35·3	33·7 34·3	58 57	-16.5
32	39.3	39.1	50		32	38.3 38.6	38.5	51	-//	32	41.0	40.4	46 48		32	37.0	36.4	54	-10.5
34 36	39.4 38.3	39. I 38. 2	50 52		34	38.5 36.8	38.3 36.3	52		34	38.8 41.3	38.7	51		34 36	39.3	38.3	51	
34 36 38	39.5	39.5 39.8	50		34 36 38	35.9	35.6	54 56 57		34 36 38	41.0	41.3 40.8	47 48 48		38 38	39.0 37.8	37.6 36.8	52 53	
40	40.I		49 48 47		40	35.2	34.8	57		40	40.6	40.I	48		40	36.0	35.2	53 22 56	
42 44	40.6 41.2	40.2 41.1	40	-18.9	42	35·3 35·5	35.0 33.0	57 58	-17.5	42	39.3 38.2	38.9 37.8	50 52	-16.6	42 44	31.6	30.6 28.7	23 03	-6.6
46 48	41.8	41.6	46	20.9	44 46 48	36.3	36.0	55	-17.3	44 46 48 50 52	37.9	37.5	53	-10.0	44	35.3	33.3	23 05 22 58	-16.6
48 50	41.6	41.4	47		48	37.0	36.6	54		48	37.0	36.3	54		47 48	35·3 38.9	35.1	54 48	
52	41.7 41.5	4I.3	47 47		50 52	37·3 35·3	37.1 34.6	53 57		50	35.I 36.I	34.7 35.8	57 55		50 52	42.5 42.8	39.3 40.2	48	
54 56	40.2	39.8	40		54	35.3	35.1	57 56		54	37.I	36.6	54		54	42.0	40.0	47	
50 58	38.3 39.2	38.1 38.8	52 50 48	-18.6	54 56 58	35.2	34.9	57		54 56 58	33.8	33·3 38·5	59		56	42.6	40.4	47	
00	40.8	40.3	48	-16.0	3 00	37·3 38.1	37.0 37.7	53 52	-17.5	5 00	39.0 38.1	37.3	51 53	-16.5	58 7 00	42.0 39.6	40.0 37.6	47 51	- <b>1</b> 6.8
02	39.6	40.3 38.8	50		02	38.0	37.5	53	, , ,	02	35.3	34.6	57	5	02	37.0	36.0	54	10.0
04 06	37·3 35.0	36.9 34.3	53 57 58		04 06	40.3 43.2	39.9 43.0	49 44		04 06	35.0 36.6	34.2 36.3	57		04 06	38.2	37.2	53	
08	34.5	34.I	58		08	43.0	42.5	45		08	36.2	35.3	55 22 56		o8	39.1 39.6	38.2 38.0	51 51	3
10	35.0	34.6	57		10	42.6	42.3	45 46		10	32.1	31.8	23 02		10	44.1	42.0	44 38	
12 14	33.8 36.7	33·4 36.5	59 54	-18.2	12 14	41.9 40.7	41.5 40.3	48	-17.4	I2 I4	29.9 30.0	29.3 29.5	05 05	-16.4	12	47.8	46.3		-I7 O
16	39.2	39.0	50		16.2	38.3	38.3	52	-/ -4	16	29.9	29.3	05	10.4	14 16	44.9 40.5	44·3 39·5	42 49	-1/ 0
18 20	40.0 41.2	39·5 40.0	49 48		18 20	37.6	37.3	53		18	30.3	30.1	04		18	39.2	37.8	51	
22	40.0	39.3	50		22	38.3 39.2	38.1 39.0	52 50		20 22	32.3 34.0	32.0 33.6	23 OI 22 59		20.3 22	40.0 35.6	39.0	50 56 56	
24	42.I	41.0	46		24	40.0	39.8	49		24	34.0	33.4	59		24	35.8	35·3 34·7	56	
20 28	40.5 38.3	40.0 37.5	49 52		26 28	40.6 38.0	40.2 38.3	48 51		26 28	37.I 29.6	36.5 28.7	22 54		26	35.3	34.2	57	
30	40.2	39.0	50	-18.2	30	38.9 37.7 37.8	37.3	53	-17.2	30	29.8	29.3	23 06 05	-16.3	28.2 30	40.0 41.3	39·3 40.5	50 48	-17.0
32	40.2	39.2	49 48		32	37.8	37.3	53		32	29.3 28.3	28.7	05 06		32	36.0	33.0	22 58	2,11
34 36	41.3 41.5	40.4 41.3	46 47		34 36 38	37·4 38.2	37.4 37.6	53 52		34	28.3 29.7	28. I 29. 3	08		34	29.0 26.4	25.8	23 09	
34 36 38	41.3	39.9	47 48		38	40.0	39.5	49	•	36 38	30.9	30.6	05 04		36 38	26.3	22.4 22.0	. I4 I4	r
40 42	40.0	38.6	50		40	41.2	40.5	49 48		40	30.9 32.6	32.4	OI		40	31.5	29.5	23 04	
44	38.9 42.0	37.8 40.8	52 47	-18.o	42 44	39·3 40.3	38.5 39.5	51 49	-17.o	42	33·3 33·5	33.I 32.6	00	-16.2	42	38.5	36.0	22 53	-17.0
44 46 48	43.2	42.3	52 47 45	in the second	44 46 48	40.3 41.2	40.8	47	-,	44 46	32.3	31.7	02	10.2	44 46	44.3 46.0	41.6	44 40	-1/.0
48 50	42.3 40.2	41.6 39.0	46 50		48	41.3	40.3	48		48	31.3	30.3	03		48	46.0	44.1	41	
52	41.7	40.3	47		50 52	40.3 39.7	39.5 39.1	49 50		50 52.2	29.3 28.9	29.0 28.3	06 07		50	48.0	45.2	38 38	
54	39.7 38.2	39.2	50		54	41.3	40.3	48		54	30.9	30.5	04		52 54	49·3 50.2	44.I 45.6	. 36	
50 52 54 56 58	38. <i>2</i> 36.0	37.6 35.0	<b>52</b> 56		54 56 58	42.2 45.9	41.0 45.2	46 40		54 56 <b>5</b> 8	33.0	33.0	00		54 56 58	53.4	49.3	3I 28	
50	50.0	55.0	50	H	50	43.9	43.2	40	il.	50	32.3	32.0	OI	- 1	58	56. I	51.0	. 28	l

Observer-W. J. P.

hr'r ime	Scaread Left	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	Sc read Left	_	East decli- nation	Temp C.
m 00	d	đ	۰,	•	h m	d	d	۰,	0	h m	ď	d	. ,	•	h m	đ	d	0 ,	
03	54.0 53.2	51.7 48.1	22 29 32	-17.0	IO 00 02	50.7 44.1	48.4 42.1	22 34 44	-16.4	12 00 02	47·7 47·7	47·3 47·3	22 37 37	-16.2	14 00 02	49. I 50. I	48.9 50.0	22 35	-16.2
04 06	49.3	45.1	38		04 06	45.9	45.I	40		04	47.7	47.6	37		04	49.8	49.3	33 34	
80	47.2 48.2	42.5 44.2	41 39		06 08	51.1 51.9	50.2 50.9	32		06 08	48.7 48.1	48.4 48.1	36 36		o6 o8	49.2	49.2	34	
10	51.7	47.2	34		10	50.2	48.9	31 34		10	48.0	47.9	36		10	51. 53.8	53.3	30 28	
I2 I4	51.8 41.9	47.8 38.7	34 48	-17.0	12	47.9 46.8	45.9	34 38	-c .	12	47.8	47.6	37		12	53.2	53.0	28	_
17	41.1	37.2	50	17.0	14 16	48.2	44.3 46.3	40 <b>3</b> 8	-16.4	14 16	47.8 47.7	47·5 47·2	37 37	-16.2	14 16	53.0 52.7	52.9 52.1	29 30	-16.3
18 20	44.9 47.1	40.9	44		18	47.5	45.7	38		18	47.6	47.2	37		18	53.4	53.0	30 28	
22	49.7	44.3 41.1	40 40		20 22	48.9 47.0	46.9 45.9	36 39		20 22	47.9 48.0	47.7 47.8	37 36		20 22	54.I 51.5	53.7 50.8	27 32	
24 <b>2</b> 6	42.8 44.8	40.0	47		24 26	42.0	42.9	44		24 26	47.7	47.I	37	į	24 26	51.2	50.7	32	
28	44.9	42.2 41.8	43 44		20 28	44.8	44.2 46.2	42 38		20 28	48.2 47.2	47.8 47.0	36 38		26 28	50.4 50.8	50.2 50.1	33 33	
30	40.0	37.0	44 51	-16.9	30	50.0	49.7	34	-16.3	30	47.8	47.I	37	-16.3	30	50.3	49.7	33	-тб. з
32 34	41.3 45.4	37·5 42.2	50 43		32 34	50.2 46.0	49.2 45.9	34 40		32	48.1	47.6 48.6	37		32	50.3 50.8	50.0 50.2	33 32	
34 36 38	46.8	43.6	41		34 36	46.2	45.5	40		34 36 38	49.0 48.3	47.8	35 <b>3</b> 6		34 36 38	50.0	49.4	32 34	
30 40	39.1 36.0	36.9 33.7	52 57		38 40	46.0	45.1 46.0	40		38 40	49.0 48.8	48.6 48.1	35 36		38	50.0	49.7	34	
12	42.6	42.4	45	_	42	47.7	46.7	39 38		42	49.0	48.8	35		40 42	49.2 49.0	49.0 48.6	35 35	
44 46 48	45.9 45.9	45.2 45.0	40 40	-16.9	44	50.6 48.9	49.9 48.0	33 36	-16.3	44	49.9	49.2 48.8	34	-16.2	44	49.0	48.7	35	-16.3
48	45.9	45.0	40		44 46 48	49.I	47.7	36		48	49.0 47.9	47.3	35 <b>37</b>		44 46 48 50 52	49. I 48. 4	48.8 48.1	35 36 36	
50 52	42.7 43.2	41.2 42.0	46		50	46.9 47.8	45.9 46.8	39		50	47.7 47.8	47.2	37		50	48.2	47.9	36	
54 56	46.2	45.I	45 40		52 54	48.9	48.0	37 36		52 54	47.0	47.8 47.0	37 38		52 54	48.2 48.0	47·7 47·7	36 37	
6 8	47.9	46.7	37		54 56 58	48.9	48.0	36		44 46 48 50 52 54 56 58	47·3 47.8	47.3	37		54 56 58	47.9	47.6	37	
00	46.3 44.9	45.I 44.I	40 42	-16.8	11 00	49.3	48.9 48.9	35 34	-16.3	13 00	49.2 49.4	48.9 48.9	35 35	-16.1	58 15 00	47.9 47.9	47·5 47·4	37 37	<b>-1</b> 6.3
)2	45.7	45.0	41		02	49.9 49.8	48.8	34		02	48.7	47.9	35 36		02	47.3	47.I	37 38	10.3
6	40.1 39.8	38.2 38.3	50 50		04 06	49.8 50.7	48.8 49.1	34 33		04	48.8 48.9	48.1 48.2	36 36		04 06	46.3 45.7	46.I 45.2	39	
8	40.9	40.I	50 48		08	51.9	50.7	31		08	49.7	49.0	34		08	45.2	45.0	40 41	
IO I2	44.0 45.7	42.2 43.2	44		I0 I2	52.5 53.6	50.1 52.0	31 29		I0 I2	49.2 49.7	48.6 49.1	35 34		10 12	45.I 44.6	44.8	41	
14	47.6	46.0	42 38	-16.7	14 16	54.8	53.8	<b>2</b> 6	-16.2	14	50.I	49.8	33	-16.1	14	44.I	44.2 43.7	42 43	-16.4
6	50.3 50.9	48.4	34		16 18	57.2 59.0	55·9 57·3	23 20		16 18	51.2 50.0	51.0 49.8	32		18 18	45.2	45.0	41	
20	55.6	53.8	33 26		20	54.9	52.0	28		20	49.9	49.2	33 34		20	45.8 45.3	45.4 45.1	40 41	
22	54.0 52.8	52.0	28 30		22 24	54.7 52.2	53.2	27 31		22 24	51.8 48.1	51.3	31		22	45.3 45.8	45.6	40	
24	53.2	51.4 52.1	29		26	55.7	50.4 54.8	25			47.9	47.7 47.8	37 37		24 26	46.1 45.8	45.9 45.7	40 40	
8	54.3	53.7	27 32 38	-16.6	28	51.7 49.8 48.1	50.I	32	-16.2	26 28	47.9 47.3 46.2 47.2 48.1 48.0	47.I	37 38	-16.0	28	45.8 45.9 45.9 45.1	45.7	40	
2	52. I 47.0	50.2 46.3	32 38	-10.0	30 32	49.6 48.1	49.2 47.0	34 37	-10.2	30 32	47.2	45.9 46.9	40 38	-10.0	30 32	45.9 45.1	45.7 45.0	40 41	-r6.3
4	52.0	51.1	31	1	34	48.7 48.1	47.6	36		34	48.1	47.9 47.8	36 36		34	44.4	44.2	42	
8	50.I 50.I	50.1 49.2	33 34		34 36 38	48.0	46.9 47.0	37 37		38	40.0 47.9	47.6	30 37		34 36 38	44.4 45.3 44.8	45.1 44.8	4I 4I	
o	47.9	47.0	37		40	47.7 48.2	40.7	38		40	47.7	47.2 47.0	37		40	44.7	44.4	42	
2	44·3 49.1	42.6 47.9	44 36	-16.4	42 44 46 48	48.5	47.3 47.6	37 38 37 36 37 38	-16.2	42	47.9 47.7 47.3 47.2 48.2 48.8	47.0 47.1	37 38 38	-16.1	42	44.5 44.4	44.2 44.2	42	-16.3
6	50.7	49.6	33		46	48.5 47.8	46.9	37		46	48.2	47.1 48.0 48.6	36		46	44.0	43.8	42 43	20.3
8	50.8	49.7	33 36		48	47.2	46.7	38 38		48 50	48.8	48.6 48.0	35 36		48	44.3	44.2	42	
2	48.9	47.7 46.1	30	}	52	48.7	47.2 48.4	36	1	52	40.0	46.8	38		52	44.8	45.1 44.8	4I 4I	
4	47.0 47.7 48.8 48.3	46.4 47.8	39 38 36		50 52 54 56 58	47.2 48.7 48.6 48.0	48.4 48.0	36 36		3468 0 2 4468 0 2 455558	47.I	46.9	38 38 38 38		40 42 44 46 48 50 52 54 56 58	45.1 44.8 44.8 45.0	44.8	41	
30 32 34 36 38 40 42 44 46 48 50 52 54 56 58	48.8	47.8 47.3	30 37		50	47.7	47.3	37		50	47.0 47.0	47.0 47.0	38		50	45.2	45.0 45.1	41 41	

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

								erted	Ï							_		erted
	ngs	East decli- nation	Temp. C.	Chr'r time	read	_	East decli- nation	Temp. C.	Chr'r time	read	_	East decli- nation	Temp. C.	Chr'r time	read	-	East decli- nation	
45.7 4 46.3 4 46.8 4 47.0	45.5 46.1 46.7 47.0	22 4I 40 39 38 38	-16.3	h m 18 00 02 04 06 08	d 46.2 46.3 46.5 46.5	d 45.2 45.2 45.5 45.6 45.7	22 40 40 40 40 40 39	-16.o	h m 20 00 02 04 06 08	d 49.3 50.5 51.2 51.8 53.4	d 49.0 49.8 50.6 50.8 52.3	22 35 33 32 31 29	• –16.0	h m 22 00 02 04 06 08	d 54.0 53.9 55.2 56.1 55.6	d 53.0 53.0 54.4 55.7 55.1	22 33 33 31 29 30	-15.8
47.3 47.1 47.2 47.1 47.0 46.7	47.2 47.0 47.1 46.9 46.9	39	-16.3	10 12 14 16 18 20 22	46.6 47.0 47.3 47.3 46.5 46.3	46.0 46.3 47.0 46.8 46.3 45.5	39 38 38 38 39 39	-16.0	12 14 16 18 20 22	50.3 54.0 54.3 55.0 54.8 54.3	53.2 49.6 53.3 53.3 53.9 53.4 53.3	33 28 27 26 27 27	-16. <b>o</b>	12 14 16 18 20 22	58.7 58.2	58.5 58.2	31 33 30 26 25 26	-16.0
46.7 46.8 45.3 44.9 44.8 45.8	46.2 46.6 45.1 44.7 44.8 45.8	39 39 41 41 41 40 41	-16.3	28 30 32 34 36	46.1 46.0 46.3 46.9 46.6 46.4	45.0 46.1 45.6 46.0 46.3 46.2 46.4	39 40 39 38 39	-16.o	26 28 30 32	53.2 51.2 50.6 50.0 50.0 50.2	53.0 50.6 50.0 49.3 49.3	32 33 34 34 33	-16.o	28 30 32 34 36	57.0 55.6 55.7 52.3 60.8	57.0 55.3 55.5 52.0 60.2 50.1	27 30 30 35 22 36	-16.0
48.2 48.0 48.0 47.8 47.5 47.3 47.2 47.2	46.8 45.1 45.0 44.6 44.3 44.3	37 39 39 39 40 40	-16.3	40 42 44 46 48 50 52	46.7 46.9 47.5 48.1 48.0 48.7 47.6	46.7 46.6 47.2 47.8 48.0 48.3 47.2	37 36 36 36 37	-16.0	40 42 44 46 48 50 52	49.3 48.5 49.3 49.7 49.0 48.4 53.0	48.3 47.5 48.2 48.7 48.3 47.4 52.2	35 36 35 34 35 36 29	-16.o	40 42* 44 46 48 50 52	20.6 61.0 64.8 59.6 65.1 64.3 59.1	6.0 41.0 55.4 39.3 51.1 63.0 58.0	23 36 23 08 22 53 23 10 22 56 48 56	–îб.о
48.0 48.2 48.3 48.3 48.6 48.6	45.6 46.0 46.3 46.5 46.5	37 37 37	-16.2	58 19 00 02 04 06	47.0 46.6 46.8 46.9 47.3 47.2	46.1 46.2 46.6 47.0 47.0	39 39 38 38 38	-15.8	58* 21 00 02* 04 06	55.3 43.0 42.0 64.0 56.3 48.4 69.3	50.0 33.0 28.0 24.0 36.3 7.0 65.3	29 22 52 23 33 19 24 35 25 04 24 02	-16.0	54 56 58 23 00 02 04 06	67.0 58.6 63.4 69.5 62.7 60.6 65.0	65.3 58.4 61.5 69.0 60.4 59.0	44 56 50 39 51	-16.0
47.6 47.7 47.8 47.6 48.0 48.1 47.9	46.3 46.0 46.0 46.3 46.4 46.8	38 38 38 38 38 37	-16.0	10 12 14 16 18 20	48.5 48.3 47.5 46.8 45.7 45.3	48.3 48.0 47.1 46.4 45.4 45.1	36 37 38 40 41	-16.0	10* 13* 14* 16* 18 20*	56.7 76.0 60.5 47.8 56.3 66.8	25.0 52.0 34.0 34.3 30.3 45.0	24 53 23 13 22 45 24 27 24 23 23 23	-15.8	10 12 14 16 18 20	65.1 69.0 72.6 68.7 64.0 66.8	64.0 67.9 72.2 66.5 61.0 66.1	46 40 34 41 50 43	_16.1
47.8 47.5 47.3 46.6 46.2 45.9	46.8 46.5 46.1 45.3 44.8	37 37 38 38 40 40	-16.o	24 26 28 30 32 34 36	45.6 46.0 45.6 46.0 46.0 46.0	45.5 45.6 45.3 45.8 45.8	40 40 40 40 40 40 40	-15.9	24 26* 28 30 32	73.1 64.7 67.0 68.5 67.0	53.2 33.0 48.3 65.3 67.4 65.3 65.3	23 I2 22 34 28 I3 I0 I3 I3	-15.5	24 26 28 30 32	63.0 63.6 69.9 72.3 73.0 71.2 68.2	61.0 61.9 68.6 70.9 71.6	50 49 39 35 34 37 42	-16.0
46.0 4 46.3 4 46.4 4 46.7 4 47.1 4 46.3 4 46.8 4	44.7 44.9 45.3 45.5 45.7 46.0 45.6	41 40 40 39 39 39 39 39	-16.o	40 42 44 46 48 50 52	49.3 46.9 46.8 46.5 46.7 47.0 46.5	46.3 46.3 46.3 46.7 47.0 46.5	37 38 39 39 38 38 38	-16.o	42 44 46 48	65.2 63.8 62.3 60.8 60.0 58.3 56.6	63.9 62.8 61.3 59.8 57.3 55.3 53.8	16 17 20 22 24 26 29 31	-15.6	40 42 44 46 48	71.0 70.1 68.3 70.0 70.3	70.1 69.1 67.3 69.0 69.5	37 38 41 38 38 40 40 42	-16.3 -16.3
	Left d 5.7 3.8 0 3.3 1.2 1 0 7 3.7 8 45.5 3.2 0 0.8 5.3 2.2 5.0 2.3 3.3 3.6 1.6 7.8 6.0 1.9 0.8 5.4 46.4 47.4 47.4 47.4 46.5 48.8 48.8 48.8 48.8 47.7 47.8 6.0 1.9 0.8 5.3 47.4 47.4 46.5 9.9 0.3 4.7 4.7 4.7 4.7 4.7 4.7 4.7 4.7 4.7 4.7	45.5 1.7 0 2 2 0 1 9 9 2 1 2 6 1 7 8 8 8 8 1 0 6 0 3 5 5 5 0 3 3 0 0 3 4 8 7 9 8 5 1 3 8 7 6 7 9 3 3 5 7 3 8 6 4 6 7 3 3 1 4 7 7 1 2 7 3 7 8 4 7 7 1 2 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1	Left Right  d d 222 41 45.5 45.5 40 45.5 7 45.5 40 46.8 46.7 38 47.0 47.0 38 47.1 47.0 38 47.1 47.0 38 47.1 47.0 46.9 46.7 46.2 46.7 46.2 46.7 46.2 46.8 45.1 41 49.4 44.8 44.8 45.8 45.8 45.8 45.8 45.8 45	Left Right   Nation   C.	Left Right   Nation   C.   time   C.     time   C.     time   C.     time   C.   time	Left Right	Left Right   Right	Table   Tabl	Left   Right   Right   C.   time   Left   Right   Right   C.	Left Right    C.   time   Left Right   Left	Left Right	Left Right	Left Right   Ration   C.   time   Left Right   Left Rig	Left Right  d d d ° ' ' " h m d d d ° ' ' " h m d d d ° ' ' " 0 h m d d d 0 ° ' ' 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Left Right   nation   C.   time   Left Right   nation   C.   time   Left Right   d   d   d   c   c   h m   d   d   d   c   c   h m   d   d   d   c   c   c   h m   d   d   d   c   c   c   h m   d   d   d   c   c   c   h m   d   d   d   c   c   c   h m   d   d   d   c   c   c   c   h m   d   d   d   c   c   c   c   h m   d   d   d   c   c   c   c   c   d   d	Left Right   nation   C.   time   Left Right   nation   C.   time   Left Right   Le	Left Right  d d d ° ' ' "   h m   d d d ° '   h m   h d d d ° '   h m   h d d d ° '   h m   h d d d ° '   h m   h d d d ° '   h m   h d d d ° '   h m   h d d d ° '   h m   h d d d ° '   h m   h d d d ° '   h m   h d d d ° '   h m   h d d d ° '   h m   h d d d ° '   h m   h d d d ° '   h m   h d d d ° '   h m   h d d d ° '   h m   h m   h d d d ° '   h m   h m   h d d d	Left   Right   Nation   C.   time   Left   Right   Nation   C.

Observers—R. R. T. and W. J. P., who alternated from 16h 44m to 16h 46m.

Correction to local mean time is + 32s. 90° torsion = 25.1.

Torsion head at 16h 30m, December 15, read 341°, and at oh 25m, December 17, read 346°.

Observer—W. J. P.

Thurs	sday, Decemi	oer 17,	1903		]	Magne	t scale	erect	Frida	y, Dece	mber	18, 1903	3		Ma	gnet so	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	
h m 16 00 02 04	d d 49.1 51.8 48.4 51.0 50.1 52.7	22 33 32 35	-17.8	h m 18 00 02	d 54.0 54.0 54.0	d 54.0 54.0 54.1	22 39 39 39	-14.8	h m 20 00 02 04	53.1	d 52.2 52.2 52.1	22 36 36 36	-16.8	h m 22 00 02 04	d 59.9 59.8 59.8	d 58.2 58.2 58.0	22 26 26 26 26	-15.7
06 08 10 12 14	51.2 53.7 51.8 53.9 52.3 54.3 53.2 55.1 53.8 55.6	35 36 37 38 39 40	;	04 06 08 10 12	54.0 53.9 53.5 53.8 54.0	54.1 54.0 53.8 53.9 54.0	39 39 39 39 39	-14.7	06 08 10 12 14	53.I 53.3 53.0 53.9	52.2 52.7 52.4 53.1 53.4	36 36 36 35	-16.8	06 08 10 12	60.0 60.0 58.7 58.0	58.6 59.1 57.9 57.5	26 26 27 28 32	-15.3
16 18 20 22 24	54.5 56.0 54.3 56.0 54.8 56.2 54.8 56.2 54.8 56.2	4I 4I 4I 4I 4I		14 16 18 20 22	53.8 53.8 53.8 53.8 53.9	53.9 53.9 53.8 53.9 53.9	39 39 39 39 39	14.7	16 18 20 22	54.0 54.1 54.0 54.0	53.3 53.7 53.5 53.6 53.1	35 34 35 34 35		14 16 18 20 22	55.8 56.8 55.8 54.9 54.9 52.0	54.9 55.8 54.3 53.8 54.0 50.7	30 33 34 34 38 38	
26 28 30 32	54.7 56.1 54.6 55.9 54.3 55.6 54.2 55.2 54.3 55.3	41 41 40 40 40		24 26 28 30 32	53.9 53.9 53.8 53.9 53.9	54.0 54.0 53.9 54.0 53.9	39 39 39 39 39	-14.6	24 26 28 30 32	53.6 53.9 53.8 53.8	53.0 53.2 53.2 53.2 53.3	35 35 35 35 35	-16.8	24 26 28 30 32	51.9 58.8 55.1 57.0 56.2	50.7 58.1 54.9 56.0 56.0	38 27 33 30 31	-15.3
34 36 38 40 42	53.7 54.7 53.1 54.1 53.2 54.2 53.1 54.0 53.2 54.0	39 38 39 38 38 38	-16.2	34 36 38 40 42	53.9 53.9 53.8 53.9 53.8	54.1 54.0 53.9 53.9 53.9	39 39 39 39 39	-14.3	34 36 38 40 42 44	54.1 54.6 54.2 54.8	53.9 54.1 54.0 54.2 54.4	34 34 34 33 33	-16.7	34 36 38 40 42 44	56.2 56.9 57.3 58.0 56.8	55.0 56.2 56.2 57.3 55.6	32 30 30 28 31	-I5.0
44 46 48 50 52	53.2 54.0 53.6 54.2 53.8 54.3 53.7 54.2	38 39 39 39 38		44 46 48 50 52 54 56 58	53.6 53.4 53.4 53.6	53.8 53.7 53.8 53.0	39 38 38 39		44 46 48 50 52 54 56	55.2 55.3 55.2 56.6 56.8	54.9 54.8 54.6 56.1 56.0	33 33 33 30 30 28		40 42 44 46 48 50 52 54 56 58	57.5 58.0 57.0 58.0 57.6	56.9 57.6 56.0 57.2 56.6	29 28 30 28 29	
54 56 58 17 00 02 04	53.I 53.9 52.9 53.8 52.8 53.I 52.2 52.8 52.I 52.7 52.3 52.8	39 39 38 38 37 37 36	-15.8	19 00 02	53.7 53.6 53.1 53.0 53.3 53.3	53.8 53.2 53.1 53.7	39 38 38 38 38 38	-14.0	58 21 00 02 04	58.3 58.7 57.9 57.8 57.2	57.6 58.0 57.2 57.1 56.6	28 27 29 29 30	-16.3	23 00 02 04	55.0 53.0 52.1 50.8 51.9	53.8 52.1 51.1 50.1 51.1	34 36 38 40 38 38 38	-15.0
06 08 10 12 14	52.9 53.2 53.8 54.1 54.2 54.7 54.6 54.8 54.5 54.8	37 38 39 40 40 40	-15.4	04 06 08 10 12	53.4 53.6 53.7 53.3 53.1	53.8 53.8 53.9 53.4 53.2	39	-14.0	06 08 10 12 14	56.7 56.2 56.2 57.9	56.0 55.7 55.7 57.1 56.8	30 31 31 29 29	-16.3	06 08 10 12 14	52.2 52.5 51.2 51.8 52.0	51.0 51.2 50.6 50.7 51.1	38 38 39 39 38	-14.9
16 18 20 22	54.2 54.8 54.2 54.8 54.2 54.8 54.1 54.3	40 40 40 39 40		14 16 18 20 22 24	53.2 53.3 53.0 53.0	53.6 53.7 53.1 53.0	39 38 38 38 38 38 38 37		16 18 20 22 24	59.0	56.5 57.1 57.2 58.2 57.4	28 29 28 27 28		16 18 20 22 24	51.3 50.3 50.3 50.2 50.1	40.3	39 41 40 41 41	
24 26 28 30 32	54.2 54.4 54.1 54.2 54.2 54.7 54.8 54.8 54.7 54.8 54.8 54.8	39 40 40 40	-15.2	26 28 30 32	52.9 53.2 53.9 54.2 54.0 54.1	53.3 54.0 54.2 54.0 54.2	38 39 39 39 39	-14.0	26 28 30 32 34	58.3 58.7 59.9 58.3	57.9 57.7 59.1 57.9 57.9	28 28 26 28 28	-16.o	26 28 30 32 34	48.7 49.1 49.0 50.1 51.0	48.0 48.7 47.5	43 42 43 41 39	-14.8
30 32 34 36 38 40 42	54.1 54.3 54.0 54.0 53.9 53.9 54.0 54.1	39 39 39 39 39 39	75.0	34 36 38 40 42	54.2 54.2 54.0 54.1	54.2 54.0 54.2	39 39 39 39 40	-14.0	34 36 38 40 42	57.2 56.9 56.8	57.7 57.1 56.9 56.4 57.0	28 29 30 30	-15.9	34 36 38 40 42	51.3 51.2 51.0 50.9 51.0	50.9	39 39 39 39 39	
44 46 48 50 52 54 56 58	54.2 54.3 54.1 54.2 54.0 54.1 53.8 53.8 53.8 53.8	39 39 39 39	-15.0	44 46 48 50 52	54.5 54.2 53.8 53.2 52.9	54.6 54.2 53.9 53.3 53.8	39	-14.0	40 42 44 46 48 55 52 54 55 58	57.9 59.0 59.7 58.8	57.6 58.1 59.1 58.5 58.9	29 28 27 26 27 26	-3.3	44 46 48 50 52	51.0 50.8 50.7 50.4 50.7	50.7 50.4 50.1 50.0	39 39 40 40	
54 56 58	54.0 54.1 54.1 54.1 54.1 54.1	39 39 39		50 52 54 56 58 20 00	52.9 52.8 52.8 52.9	53.6 53.3 53.3 53.6	39 38 38 38 38 38 38	-14.0	54 56 58	59.3	58.9 59.0	26 26		54 56 58 24 00	50.9	50.6 50.7	40 39 39 39	

Correction to local mean time is + 45s.

Torsion head at 15h 10m read 344° and at the end read the same.

Observer—R. R. T.

Correction to local mean time is + 43s. Torsion head at 19h 15m read 346° and at the end read the same. Observer—R. R. T.

h <b>r</b> 'r ime	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Rig	nati	li- Temp	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
m 00* 02 04 06 08	d d 51.6 53.8 52.0 54.6 53.3 55.6 54.0 55.4 54.5 56.6	22 32 33 35 35 37	0	h m 2 00 02 04 06 08	d 55.4 55.1 56.0 57.5 56.0	d 55.8 55.6 56.8 58.0 56.6	22 37 36 38 40 38	-20.0	h m 4 00 02 04 06.2 08	57.8 52 58.0 53 56.1 51	.0 .2 .8	, 0 14 13 –19.0 16 17 16	h m 6 oo 02 04 06 08	d 42.6 38.6 39.4 39.4 38.0	d 40.0 37.5 38.1 35.2 36.8	23 36 41 40 42 42	-19.3
10 12 14 16 18 20 22 24 26	54.0 56.0 54.5 56.0 56.3 56.3 56.3 56.9 54.9 55.6 53.7 54.3 55.0 55.6 53.7 54.3	37 36 36 38 38 36 34 36 34	-21.7	10 12 14 16 18 20 22 24 26	53.9 53.5 53.5 53.3 53.0 53.1 53.6	54.6 54.7 54.3 53.8 53.3 53.3 53.6 53.9	35 35 35 34 33 33 33	-20.0	10 12 14 16 18 20 22 24 26	57.3 53 57.5 53 55.7 53 58.0 54 57.3 53 56.9 53 58.0 54 59.5 56	.6 .8 .0 .6 .6 .6	14 13 15 -19.0 12 14 14 14 12 10	10 12 14 16 18 20 22 24 26	37·3 43.1 42.6 42·5 44·3 43·3 33.6 31.8	35.3 39.6 39.6 40.8 42.6 42.3 33.1 30.3	44 36 36 35 32 33 48 52	-19.3
26 28 30 32 34 36 38	54.0 54.3 55.3 55.7 55.0 55.3 58.0 58.3 56.3 56.5 52.5 53.5	34 35 37 36 41 38 33	-21.5	26 28 30 32 34 36 38	54·3 55·3 55·3 57·4 60.1 63.7	54.9 56.0 56.1 58.0 61.3 64.0	35 37 37 40 45 50	-20.0	26 28 30 32 34 36 38	56.3 54 54.3 52 56.6 54 54.9 53 56.5 54 60.3 58	.4 .9 .5	14 17 13 –19.1 15 13	28 30 32.6	33.6	27.0 33.6 29.6 24.4 29.5 34.6	56 45 23 51 24 01 23 51	-19.3
38 40 42 44 46 48 50 52	53.0 54.2 52.8 53.6 50.6 51.6 49.9 51.0 51.1 51.6 55.0 55.5 56.7 57.3 57.3 57.9	33 33 30 29 30 36 39 40	-21.3	38 40 42 44 46 48 50 52	67.0 66.5 69.3 69.0 68.6 70.0 70.6	67.3 66.5 70.0 69.6 69.1 70.6 71.1	55 54 59 58 22 58 23 00 01	-20.0	38 40 42 44 46 48 50 52	60.3 58 59.0 57 60.3 59 58.8 58 60.2 58 60.2 57 55.5 54	3 3 2 2 0 7	07 09 07 09 –19.2 08 08	36 38 40 42 44 46 48 50	35.9 44.6 54.8 57.0 57.8 59.0 57.8	44.3 52.6 55.2 56.0 58.3 56.0 51.5	45 31 16 12 11 08 11	-19.3
54 56 58 00 02 04 06 08	57.5 57.8 57.6 57.6 56.0 56.3 54.7 54.9 54.1 54.3 53.3 53.5 52.4 52.7	40 40 38 36 35 33 32	-21.0	52 54 56 58 3 00 02 04 06* 08	73·3 73·5 73·3 72.8 76.0 33.6	73.8 74.1 74.0 78.3 74.0 73.7 76.5 40.0	05 05 05 06 05 05 09	-19.8	54 56 58 5 00 02 04 06	57.3 56 57.5 56 53.5 53 48.8 48 48.6 48 55.3 53 56.7 54 57.0 54	3 5 3 2 0 3 2	11   11   16   16   17   17   17   17	52 54 56 58 7 00 02.2 04 06	66.6 63.6	48.9 50.8 54.3 56.0 58.0 61.0 65.5 62.0	23 19 14 12 09 23 05 22 57 23 02	-19.3
10 12 14 16 18 20 22	51.7 52.0 51.4 51.6 51.3 51.6 56.0 56.3 55.7 55.7 50.7 50.7 50.2 51.3 54.3 54.7 54.4 54.6	31 30 38 37 29 30 35	-21.0	10 12 14 16 18 20 22 24	38.5 36.3 34.3 37.5 43.6 53.3 58.5 67.0	40.1 38.1 35.1 39.2 45.8 54.6 59.5 69.0	16 12 08 14 24 39 23 47 24 01	-19.5 ·	08 10.2 12 14 16 18 20 22	60.6 58 58.6 56 61.3 58 60.6 57 59.7 56 59.1 55	3 3 3	11 07 07 10 07 -19.2 08 09 11	08 10 12 14 16* 18 20 22	63.5 71.3 72.0 73.8 42.0 42.0 43.6 45.3	61.0 69.3 71.0 72.0 38.9 35.3 35.3	23 03 22 50 48 46 42 45 44 40	-19.3
26 28 30 32	54.0 54.6 54.7 55.2 55.6 56.5 57.4 57.6 56.3 56.8 56.5 56.7	35 36 37 40 38 38 38 38 40	-21.0	26 28 30 32* 34 36 38 40	67.7 68.7 69.9 69.5 49.0 38.8 25.8	74.2 74.9 53.0 43.0 28.8	02 04 07 07 17 24 01 23 40	-19.5	24 26 28 30 32 34 36	58.0 53 56.5 52 52.2 49 50.3 47 47.3 42 44.3 41 47.2 44	5 0 3 5 0	13 15 21 24 –19.0 30 34	24 26 28 30 32 34 36 38	43.3 39.0 43.5 43.2 41.5 40.9 39.3 38.8	37.8 32.8 38.0 36.4 35.0 40.2 38.5	42 49 42 43 46 42	-19.3
34 36 38 40 42 44 46 48 50	56.3 56.3 57.3 57.6 55.4 55.7 54.5 54.6 54.3 54.7 54.7 55.3	37 35 35 36	-20.5	42 44* 46 48	27.2 13.3 10 44.5 42.3 42.0 44.8	29.0 16.3 .0 <i>b</i> 51.5 48.9 47.1 49.0 58.6	20 13 08 04 03 06	-19.5	34 36 38 40 42 44 46 48 50 52 54 55 58	50.6 49 58.7 57 56.6 55 55.0a 55.5 51 53.6 51 51.6 51	3 3 1 6 0	22   10   13   14   -19.0 17   18   20	40 42 44 46 48 50	43.3 42.0 35.1 36.6 36.6 31.6	37.5 43.0 41.3 34.3 36.3 36.6 30.8	44 46 38 40 51 48 48 22 57	-19.5
50 52 54 56 58	54.0 54.6 53.9 54.5 53.0 53.6 54.0 54.6	35 35 33 35		50 52 54 56 58	55.5 57.0 60.5 52.3	58.6 60.6 61.6 55.3	22 25 29 17	-19.4	52 54 56 58	49.6 49 50.3 49 51.3 50 52.0 51	6	23 22 20 20	52 54 56 58 8 00	30.3 30.3 32.0 27.3 30.3	27.9 29.3 29.5 23.7 26.3	23 00 22 59 22 57 23 06 01	_1g.6

Observer-W. J. P.

Correction to local mean time + 46s. Torsion head at oh oom read 348° and at the end read the same. Observer—W. J. P.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Mond	iay, Decembe	r 21, 190	03			Magn	et scale	erect	Tuese	iay, De	ecembe	r 22, 19	03		Ma	gnet s	cale inv	erted
Chr'r	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	read	cale lings Right	East decli- nation		Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
n m 3 00 02	d d 58.2 59.3 55.1 66.3	22 53 22 56	-25.0	h m 10 00 02	d 70.2 69.1	d 70.8 69.8	o , 23 II 09	-20.0	h m 12 00 02	d 46.0 45.1	d 45.4 44.8	22 37 39	-22.2	h m 14 00 02	d 48.7 47.0	d 47.6 46.2	° , 22 34 36	• -19.1
04 06 08 10 12	62.1 66.9 63.9 68.0 67.9 69.9 69.9 72.1 67.1 69.7	23 02 04 09 12 08		04 06 08 10	67.7 64.7 65.2 67.1 66.9	65.1 67.0 67.8 67.1	07 02 04 06 06		04 06 08 10 12	45.0 46.4 47.9 46.5 45.3	44.7 45.6 47.1 46.0 43.0	39 37 35 36 39 38		04 06 08 10 12	46.2 46.6 43.9 43.3 44.7	45.6 46.1 43.0 42.8 44.0	37 36 41 42 40	-0 -
14 16 18 20 22	69.3 71.3 69.1 71.3 66.0 68.5 67.9 69.7 67.9 69.8	06 08 08	-24.5	14 16 18 20 22	66.8 67.9 67.8 68.7 68.1 68.0	68.2 68.0 68.9 68.7	06 07 07 08 08	-19.7	14 16 18 20 22	46.1 47.1 47.1 46.8 46.6	44.8 45.9 45.8 44.9 45.6	38 36 36 37 37 37 36	-21.7	14 16 18 20.4 22	46.1 47.3 46.1 46.8 47.2	45.8 47.0 45.7 46.2 46.7	37 35 37 36 36	-18.9
24 26 28 30 32	68.2 69.8 66.3 67.9 65.0 66.2 62.5 63.5 61.1 61.9 61.9 63.5	09 06 23 04 22 59 57 22 59	-23.8	24 26 28 30 32	67.2 67.9 64.2 61.2	68.2	08 07 08 23 02 22 57	-19.4	24 26 28 30 32	46.8 48.8 49.1 47.6 47.7 49.7	45.8 48.1 48.0 46.7 46.6 49.0	33 33 35 35 35 32	-21.0	24 26 28 30 32	45.1 46.2 47.2 45.5 44.1 44.7	44.6 45.9 46.8 44.9 43.7 42.9	39 37 35 38 40 40	-18.7
34 36 38 40 42	63.2 64.1 63.9 65.1 65.2 66.9 62.9 63.9 63.3 64.8	23 00 02 04 00 01	-22.8	34 36 38 40 42	59.7 59.7 61.6 62.0 62.7		57 55 54 58 22 58 23 00	-19.1	34 36 38 40 42	49.3 49.9 51.2 50.6	48.7 49.6 51.0 50.3	32 31 29 30 32	-20.3	34 36 38 40 42	43.3 43.0 43.1 47.4 47.5	42.9 42.3 43.0 46.2 47.2	41 42 42 36 35	-18.3
44 46 48 50 52	62.6 63.8 64.3 65.9 66.8 68.0 70.6 71.3 70.7 71.8	00 03 06 12 12	A.Fan	44 46 48 50 52	63.1 64.2 64.7 62.0 60.9	63.3 65.1 65.0 62.8	00 02 23 02 22 58 57	29.1	44 46 48 50 52 54 56 58	49.4 48.9 48.9 48.2 48.3	49.2 48.4 48.3 47.4 47.5 48.8	33 33 34 34 34 32		44 46 48 50 52 54 56 58	47.9 49.2 46.9 46.8 48.2	47.6 48.9 46.8 45.7 47.5	34 32 36 36 36	
54 56 58 00 02 04	69.7 70.8 69.5 70.8 70.2 70.9 70.2 70.9 68.8 69.7	II II	-22.0	54 56 58 11 00 02 04	57.0 56.3 45.8 44.0 43.9	57.8 56.8 46.8 44.7 44.6	50 49 33 30 30	-18.9	13 00 02 04	49.7 48.8 48.6 48.9 49.8 49.3	48.0 48.0 48.1 48.9 48.8	33 33 33 32 32	-20.0	15 00 02	48.1 48.8 49.9 50.7 49.2	47.3 48.2 49.0 49.1 48.1	34 33 32 31 33	-18.2
06 08 10 12 14	68.7 68.9 66.3 66.9 67.3 67.8 68.2 68.5 65.1 66.0	99 68 95 06 68	-21.8	06.2 08 10 12 14	43.0 40.0 43.3 45.3 47.5	44.I 40.5 44.I 45.7 48.0	29 24 29 32	-18.7	06 08 10 12	49.7 48.2 47.8 47.2 47.9	48.9 47.6 47.2 46.5 47.6	32 34 34 36 34	-19.7	04 06 08 10 12	48.5 49.6 48.5 47.1 46.2	47.2 48.7 47.7 46.3 45.2	34 32 34 36 37	-18.0
16 18 20 22	59.9 61.4 56.8 57.1 61.8 62.0 50.2 60.2	23 03 22 56 50 58 54 52		16 18 20 22	49.1 48.3 49.7 55.8	50.0 48.8 51.1 57.7	35 38 37 40 49 51		14 16 18 20 22.4 24	49.9	47.8 48.8 49.6 49.2 49.7	34 32 30 32 31		14 16 18 20 22 24	46.5 48.7 47.8 47.9 46.8	45.3 47.6 47.0 47.1	37 33 35 34 36	
26 28 30 32	58.1 58.9 55.9 57.0 57.2 58.0 57.3 58.2 58.3 58.9 59.9 60.1	49 51 51 52	-21.2	24 26 28 30 32	57.1 57.2 58.2 56.9 57.1 55.2	57.9 57.9 58.9 57.6 57.9 56.2	51 52 50 51 48 48	-18.3	24 26 28 30 32 34	49.7 49.2 49.6 50.8 49.1	49.2 49.2 49.2 50.1 48.8	32 32 32 30 32	19.6	24 26 28 30 32 34	46.8 47.2 47.8 47.1 47.6 48.8 48.2	45.6 46.1 46.2 45.7 46.0 46.9	36 35 36 35 34	-17.9
36 38 40 42	62.0 62.3 64.0 64.3 66.7b 66.6 66.8 68.6a	55 22 58 23 01 05 05 08	-20.8	34 36 38 40 42	55.5 54.7 55.0 53.0	55.1 55.9 53.8	48 47 47 44 50	-18.0	34 36 38 40 42	47.7 47.4 46.7 46.8	47.4 47.0 45.6 45.9 46.7	34 35 37 36 35	-19.2	36 38 40 42 44	49.1 48.8 48.3	46.7 47.6 48.0 47.6 48.1	35 33 33 34 33 33 33	-17.8
24 26 28 30 32 34 36 38 40 44 44 45 55 55 55 55	71.2 71.3 69.9 69.9 70.1 70.4 69.7 70.2	12 10 11 10 12		44 46 48 50 52	57.2 56.3 57.2 58.1 57.2	57.7 56.8 57.3 58.1 57.8 60.1	49 50 52 51		42 44 46 48 50 52 54 56 58	47.3 48.0 47.6 45.8 44.0 46.0	46.9 46.8 44.9 43.0 44.6	35 35 38 41 38		30 32 34 36 38 40 42 44 46 48 50 52 54 55 58	49. I 49. I 48. 8 48. 6 48. 0 47. 8	48.1 47.7 47.3 47.1 46.0	33 33 34 34 34 35	
56 58	70.7 71.1 70.6 71.2 70.1 70.9	12 12 11		54 56 58 12 00	59.3 56.9 57.2 58.1	57.3	54 50 51 52	-17.9	56 58	44.2 47.2	43.6 46.1	40 36		56 58 16 00	48.6 48.0 47.8 48.8 49.1 49.0	47.8 48.2 48.0	33 33 33	-17.7

Correction to local mean time is + 37s. 90° torsion = 25.'4.

Torsion head at 8h 10m, December 20, read 348°, and at 12h 30m,

December 21, read 15°.

Observer-R. R. T.

Correction to local mean time is + 30s. Torsion head at 11h 40m read 345° and at the end read the same. Observer—Not noted.

Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scal readin	ngs	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale reading Left Ri	s decli	- Tem
h m 0 00 02 04 06 08	d d 52.6 55.6 60.3 64.6 68.8 72.8 50.0b 51.3 52.3	22 53 23 06 23 20 22 47 50	-18.0	h m 2 00 02 04 06 08	54.3 5 52.3 5 55.0 5 55.6	d 54.3 55.4 53.3 56.1	22 53 54 51 56 56	-17.4	h m 4 00 02 04 06 08	d d 66.3 66.3 68.3b 61.2b 54.5b 48.8b	0 , 23 12 16 23 04 22 54 45	-16.7	h m 6 00 02 04 06 08	51.3 53 52.6 52 51.4 53 50.2 50 47.6 48	.6 22 49 .9 5 .4 49 .6 48	8
10 12 14 16 18 20 22 24 26	49.8 51.6 48.0 49.3 49.8 50.1 49.0 51.0 53.3 54.9 45.3 48.5 44.3 45.6 43.3 43.9	48 45 47 47 53 42 39 37	-18.o	10 12 14 16 18 20 22	54.5 54.1 54.7 56.9 56.8 54.7	56.6 55.2 54.9 55.3 57.3 57.6 55.3	57 54 54 55 58 58 55	-17.3	10 12 14 16 18 20 22	46.6 <i>b</i> 45.3 45.6 44.0 44.2 44.2 44.2 46.6 46.6 47.6 <i>a</i> 49.8 49.8 49.0 49.0	42 40 38 38 42 43 47 45	-16.7	10 12 14 16 18 20 22	53.4 54 52.5 53 50.4 51 53.4 54 56.6 57 55.0 56	.6 50 .2 5: .2 5: .6 45 .0 5: .0 56 .0 45 .0 45 .0 45 .0 45	)  -17.0
28 30 32 34 36 38	47.3 49.3 44.4 47.5 45.6 47.8 46.0 48.0 44.6 46.7 44.3 46.1 46.3 48.5	44 40 42 42 40 39 43	-17.8	26 28 30 32 34 36 38	50.6 52.3 55.8 54.9 52.7 50.6	51.2 53.1 56.2 55.3 53.1 51.0	48 51 56 55 48 48	-17.1	24 26 28 30 32 34 36 38	49.0 49.0 48.5 48.9 48.7 49.0 47.8 48.0 46.8 47.2 47.6 48.0 45.3 45.5 45.4 45.6	45 45 44 42 43 40 40	-16. <i>7</i>	26 28 30 32 34 36 38	51.8 52 50.2 50 50.6 51 53.5 54 52.6 52 50.5 50	.2 50 .6 48 .0 48 .0 53 .9 51 .6 48	
40 42 44 46 48 50 52	44.3 45.8 41.3 43.5 47.6 48.6 55.8 56.0 47.7 48.7 45.2 46.8 39.7 45.6	39 35 44 56 44 41 35	-17.8	40 42 44 46 48 50 52	53.0 53.1 51.7 50.6 49.6	52.3 53.6 53.5 52.1 50.9 50.0 49.9	50 52 52 50 48 47 46		40 42 44 46 48 50	48.0 48.9 53.1a 56.2 56.6 56.2 56.6 57.5 58.0 57.8 58.3 54.3 54.5	44 52 57 57 59	-16.7	40 42 44 46 48 50 52	47.6 48 45.6 49 49.6 50 50.1 50	.0 43 .8 40 .4 47 .3 47 .6 50	-17.0
54 56 58 00 02 04 06 08	43.4 48.7 47.0 53.0 48.4 53.0 47.6 52.8 52.5 58.5 53.5 56.6 52.6 55.6	41 47 48 47 56 55 53 56 58	-17.6	54 56 58 3 00 02 04 06 08	50.5 51.3 51.8 51.1 50.3	50.2 50.7 51.7 52.0 51.1 50.5 49.5 48.3	47 48 49 50 49 48 46	-17.0	52 54 56 58 5 00 02 04 06	49.5 50.0 49.5 50.0 50.0 50.6 51.6 52.6 52.6 53.4 54.7 55.0 58.1 59.0	59 54 46 46 47 50 52 22 54 23 00	-16.7	54 56 58 7 00 02 04 06	50.3 50 52.4 53 55.0 55 56.9 57 57.3 57 56.4 56 54.5 54	.3 47 .2 51 .7 55 .5 58 .9 59 .8 57 .8 54	_16.g
10 12 14 16 18 20	53.4 57.9 55.6 58.6 55.9 58.9 58.0 59.8 51.3 54.2 53.0 52.4 47.9 49.9	58 22 58 23 01 22 51 54 49 45	-17.7	10 12 14 16 18 20	48.5 4 48.6 4 49.3 4 50.5 5 50.3 5 48.8 4	48.5 48.8 49.6 50.9 50.6 49.3	44 44 45 46 48 48 45 42	-17.0	08 10 12 14 16 18 20 22	58.7 59.8 58.7 59.3 58.9 59.9 56.9 58.0 55.3 56.3 54.0 54.9 53.3 54.0	56 54 52	-16.8	08 10 12 14 16 18	57.5 57 59.9 60 60.2 60 59.9 60 62.3a 62.9 63	.5 22 59 .1 23 03 .4 03 .0 02	-16.8
24 26 28 30	49.8 50.8 50.1 51.7 47.2 48.7 47.7 49.1 48.2 49.4 48.6 49.4 49.3 50.7	47 48 44 44 45 45 47	-17.6	24 26 28 30 32 34 36	46.6 4 46.6 4 45.4 4 43.0 39.0 34.0	45.8   b b b b	42 42 40 36 30 22	-16.9	24 26 28 30 32.2 34.3	51.0 51.6 50.9 51.5 49.3 49.9 50.0 50.3 51.6 51.8 53.3 54.6 54.3 54.7 54.3 55.0 53.3 54.3	49 46 47 50 53 54	-16.9	22 24 26 28 30 32 34 36 38	62.3 63 59.9 60 60.0 62 64.5 67 66.9 69 64.5 67 64.5 67 63.3 66	.9 03 .0 04 .3 12 .9 16 .8 15	_16.8
32 34 36 38 40 42 44 46 48 50 52 54 56 58	50.7 52.1 51.3 52.6 50.3 51.5 51.8 53.2 52.8 54.2 51.5 53.0 50.5 51.8 52.3 53.5 51.9 53.0 53.3 54.4	49 50 48 51 52 50 48 51 51	-17.5	38 40 42 44 46 48 50.2 54 56 58	33.7 4I.0 50.0 5 54.7 5 53.0 46.0 4 42.I 4 40.I 4 52.5	50.6 55.4 56.0 46.0 42.8 40.3	21 33 47 55 52 41 35 32 39 22 51	-16.8	36 38 40 42 44 46 48 50 52 54 56 58	53.3 54.3 52.3 54.2 55.1 54.6 53.2 54.3 52.7 53.3 52.6 53.3 52.6 53.3 52.6 53.3	53 52 56 53 53 52 52 51 47 46	-17.0	38 42 446 48 55 546 85 58	62.0 64 60.8 62 59.0 60 57.2 59 56.6 62 60.0 64	.6   10 .0   07 .9   05 .2   02 .8   00 .2   02 .3   00 .0   02 .8   07	-16.8

Observer-W. J. P.

hr'r ime	Sca readi	ngs	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem C.
m	đ	d	۰,	•	h m	d	d	۰,	•	h m	d	d	۰,	•	h m	d	d_	0 ,	0
00 02	63.2 66.8	65.9 67.9	23 IO I4	-16.3	10 00 02	39.6 42.2	41.5 44.1	22 32 36	-14.7	12 00 02	45.7 45.1	46.2 45.7	22 40 40	-14.9	14 00 02	35.9 35.0	42.8 41.5	22 30 28	-15.0
04	66.7	69.0	15		04	40.1	41.6	32		04	46.0	46.3	41		04	36.1	42.0	30	
06 08	67.1 64.7	69.2 66.8	15 12		06 08	39.9 40.7	41.0 42.2	32 33		06 08	46.7	46.9 45.8	42 40		06 08	38.0 40.7	42.6 41.8	32 33	
10	62.0	63.2	23 07		10	40.3	40.7	32		10	44.0	44.9	38		10	41.7	42.0	34	}
2	57.3 49.8	58.5 51.8	22 59 48	-16.o	I2 I4	36.9 36.3	37.3	27 26	-14.6	I2 I4	44.2 44.8	45.0 45.5	38 39	-14.8	I2 I4	40.6	41.2 42.6	33 35	-14.8
гб	48.3	49.4	45	10.0	16	37.8	37·3 37.8	28	14.0	16	45.2	45.9	40	14.0	16	39.8	40.8	32	
8	51.9 59.9	53.6 60.3	22 51 23 03		18 20	37.9 36.1	39.0 36.8	29 26		18	45.0 47.8	45.7 48.0	40 44		18 20	35.6 31.0	37.0 32.5	25 18	
22	60.5	61.3	04		22	34.8	37.2	25 26		22	46.7	47.I	42		22	37.5	38.5	28	
24 26	64.1 64.1	64.1 64.1	23 09		24 26	35.8 34.7	37.8 38.8	26 26		24 26	46.2 46.6	47.0	42 42		24 26	39.5 38.8	40.6 39.5	31 30	
8	56.1	56.8	22 57		28	32.9	35.6	22	-14.7	28	44.7	47.2 45.1	39		28	38.9	39.5	30	
0 2	52.2 50.3	52.7 51.2	51 48	-15.6	30 32	36.0 32.3	38. I 36. I	26 22		30	43.8	44.3	37	-14.8	30 32	38.4	39.0 39.5	29 30	-14.8
	50.1	51.0	48		34	32.7		24		32 34	45.9 45.3	47·3 46.7	42 41		34	39.0 39.8	40.2	31	
4 6 8	46.0 42.3	46.4	41 36		34 36 38	30.0 27.1	32.2	17 15		34 36 38	46.0 43.8	46.8	41 38		34 36 38	41.5 42.2	42.2 42.6	34	
0	44.9	43·3 45·9	40		40	28.7	32.7 33.1	17 16		40	41.9	44.6 42.8	35		40	37.0	38.0	35 27	
2	47.0	48. I 47.8	43		42	28.8 28.5	31.3	16 15	74.0	42	42.0	42.9	35	-14.8	42	41.0 38.8	41.5	33	_T4.0
4 6 8		48.5	43 43	-15.3	44 46 48	30.2	30.9 32.8	18	-14.9	44 46 48	41.1 42.1	42.7 42.9	34 35	-14.6	44 46	39.7	39.3 39.8	30 31	-14.9
8	47.0	48.2	43		48	34·3 38.2	37 · 4	25		48	40.9 38.2	41.4	33		48	39.4	39.9	31	
0 2	47.2 48.9	48.2 50.4	43 46		50 52	37.I	41.3 41.8	31 30		50 52	37.6	39.0 38.4	29 28		50 52	41.4 42.4	41.7 43.0	34 35	
5	49. I	50.6	47 48		54	34.2	40.I	27		54 56 58	37.8	38.0	28		54 56 58	40.0	40.3	31	
	49.7 50.2	51.8 52.1	40 49		56 58	33.0 35.4	37.0 39.1	23 27		58	35.I 35.0	35.8 35.8	24 29	-14.8	58	39.I 4I.3	39.2 41.3	30 33	
	47.7	49.6	49 45	-15.3	11 00	36.2	40.0	28	-14.9	13 00	38.7	39. I	29		15 00	41.3	41.5	33	-15.0
	49.0 47.8	50.8	47 45		02	37.0 38.9	40.9 43.6	29 33		02 04	38.4 37.6	39.0 38.4	29 28	of transfer	02 04	39·3 40.0	39.6 40.6	30 32	
Ì	42.8	50.3 44.8	37		04 06	37.I	38.8	33 28		06	36.2	36.9	26		06	39.9	40.6	32	
		43.8 39.3	35 28		08 10	36.1 37.8	38.5 40.4	27 30		08	37·7 38.6	38.4 39.2	28 29		08.2 10	40. I 40. 6	40.6 41.0	32 32	
	41.6	43.9	35 38		12	38.1	41.8	31		12	39.0	39.7	30		12	41.0	41.4	33	
5		46.9 45.2	38 36	-15.0	14 16	37.6 38.3	40.3 41.6	29 31	-14.9	14 16	39.8 40.7	40.3 41.9	31 33	-14.8	14 16	38.6 37.8	39.6 38.6	30 28	-15.0
		43.3	34 38		18	39.0	42.5	32		18	40.8	41.4	33		18	38.8	39.6	30	
	43.I 41.2	45.I 43.8	38 35		20 22	39.9 41.2	42.7 44.7	33 36		20 22	40.6 38.8	41.1 39.4	32 30		20 22	38.8 38.4	39.8 39.4	30 29	
.	42.2	43.I	35		24	42.3	44.9	37		24	38.0	38.8	29		24	38.8	39.0	29	
3	42.8	43.I 44.I	36 26		26 28	37.7	40. I 38. 5	29 26		26 28	39.1 40.6	40.0 41.9	30 33		26 28	40.0 36.0	40.6 36.6	32 25	
6	42.I	44.2 44.8	36	-14.9	30	35 3 38 I	41.2	31	-14.8	30	40.7	41.7	33	-15.0	30	37.3	37.7	27	-15.0
2	41.2	44.8	36 36 36 36 35		32	39.3	43.I	33		32	40.7 38.7	41.9 39.2	33 29		32	37·3 39·3 38.8	40.3 39.8	31 30	
	4I.7 4I.I	45.I 44.2	35		34 36	39.0	41.9 41.6	31 32		34 36 38	40.3	40.3	32		34 36 38	39.0	40.6	31	
3	40.I	43.0	34 33		38	40.4	42.8	34 36		38	40.I	40.7	32		38	40.0 41.6	41.6 42.8	32	
2	40.1	42.8 42.8	33		40 42	42.0 44.2	44.0 45.9	30 39		42	39.3 36.8	40.0 37.1	31 26		40 42	42.0	43.I	35 35	
	41.2	43.2	34 35	-14.8	44	41.2	42.6	34	-14.8	40 42 44 46 48 50 52 54 56 58	36.5	36.9	26		42 44 46 48	41.8	42.8	35	-15.0
		43.0 42.2	35 34		44 46 48	39·3 42.0	40.7 43.2	31 35		48	36.9 37.1	37·3 37.8	27 27		48	40.6 41.3	41.8 42.1	33 34	
5	39.8	41.0	32		50	42.9	44.0	35 36		50	38.2	38.8	29		50	41.4	42.2	34	
	39.3	40.5	31		52	41.3 42.4	42.8	34 36		52 54	39.0 40.8	39.3 41.1	30 33		50 52 54 56 58	40.3	4I.I 4I.4	32 33	
24681246802468	41.6	41.2	33 35	1	54 56 58	43.3	44.7	37		56	40.2	43.6	34 30		56	40.6	41.1	32	

Observer-R. R. T.

Observers—R. R. T. and W. J. P., who alternated from 14h 02m to 14h 08m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedr	iesday,	Decer	nber 23,	1903			Magne	t scale	erect	Wedi	iesday,	Decer	nber 23,	1903	:		Magne	t scale	erec
hr'r ime		ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	
m	d	Ġ	0 /	0	h m	d	d	۰,	0	h m	d	d	۰,	0	h m	· d_	d	۰,	- (
00 02	39.8 41.0	40.2 41.8	22 3I 33	-15.3	18 00 02	42.7 42.5	42.7 42.6	22 35 35	-15.7	20 00 02	42.9 42.6	43.3 43.1	22 36 36	-14.4	22 00 02	43.8 34.7	49. I 41. 6	23 41 28	-14
04 06	42.4	43.0 43.0	35 36	:	04 06	42.3 42.6	42.5 42.8	35		04 06	42.6 42.8	43.0 43.3	36 36		04 06	31.2 31.8	38.3 38.7	23	
08	42.4	43.0 42.7	35 35	!	08 10	42.9	43.I	35 36 36		08	43.2	43.8	37		08	35.8 37.1	37.2	24 26 28	
12	42.4	42.6	35		12	43.3 43.8	43.8 43.8	37		12	43.7	44.I 43.3	37 37		12	38.0	38.3 39.8	29	
14 16	42.3 42.0	42.7 42.4	35 35	-15.3	14 16.3	44.0 43.6	44.1 43.6	37 37	-15.6	14 16	43.8	44.0 43.8	37 37	-14.2	14 16	39.2 40.2	4I.0 42.I	31 33	-14
18 20	41.8	42.3 42.2	34 34		18.3 20	43.2 42.9	43.2 43.0	37 36 36		18 20	43.I 43.0	43.2 43.2	36 36		18 20	41.I 42.I	42.9 43.8	34 36	
22 24	41.6	42.0	34		22	42.8	43.0	36		22	42.7	42.9	.36		22	42.8	44.2	37	
26	42.3 43.7	42.9 44.3	35 37		24 26	43.1 43.3 43.8	43.3 43.8	36 37		24 26	42.9 43.1	43.0 43.3	36 36		24 26	43.0	44·3 44·3	37 37	
28 30	44.8	45.1 45.3	39 39	-15.4	28 30	43.8 43.5	44.0 43.8	37 37	-15.3	28 30	43.3 43.8	43.8	37 37	- <b>I</b> 4. I	28 30	42.8 42.2	44.2 43.7	37 36	-14
32 34.б	44.0 44.0	44.7 44.5	39 38 38		32	43.2 42.8	43.7 43.0	36 36		32	43.8	43.9 44.0	37		32	41.6	43 · 3 42 · 8	35 34	
36 38	43.5 42.7	44.0 42.4	37 35		34 36 38	42.8	43.I	36 36		34 36 38	44.0	44.4	37 38		34 36 38	38.1	43.8	33	١.
40	41.8	42.3	34		40	42.9 42.3	43.1 42.8	35		40	44.6 44.1	45.0 44.7	39 38 38 38		40	37.2 43.2	41.5 50.3	30 42	
42 44	41.8	42.6 43.6	34 35 36	-15.5	42 44	42.3 43.0	42.9 43.2	35 36	-15.0	42 44	44.0 44.1	44.7 44.8	38 38	-14.0	42 44	43.9 39.2	56.5 45.9	47 35	-1.
44 46 48	44.3 42.7	45·3 43.6	39 36		44 46 48	43.8 43.3	44.1 43.8	37 37		46	43.8	44.7 43.6	38 36	•	44 46 48	38.0 28.9	40. I 30.8	30 15	
50 52	43·5 42.9	44.0	37 36 38		50 52	43.8	44.0	37 38		44 46 48 50 52	41.6	42.I	34	:	50	28.2	30.1	14	
54 56	44. I	44.8	38		54	44·3 43·9	44.7 44.1	37		52 54	41.1	41.9 42.1	34 34		52 54	39.8 34.2	40.2 35.3	. 3I 23	
58	43.6	44·5 44·3	37 37		54 56 58	43.2 44.2	43·5 44·2	36 38		54 56 58	4I.5 4I.I	41.8	34 33		54 56 58	47.2 34.4	56.1 40.9	49 27	
00 02	44.4	45·3 44.8	39 38	-15.5	19 00 02	43.8 43.8	44.I 44.0	37	-14.9	2I 00 02	40.0 38.2	40.6 38.7	32 29	-14.0	23 00 02	24.4 26.8	33.2	14 16	-I.
04 06	44.9 44.0	45.7 44.7	40 38		04 06	44.I 44.I	44.4	37 38 38		04 06	38. I	38.8	29		04	30.4	34·4 38·5	22	
80	45.6	46.6	41		08	44. I	44·4 44·4	38 38		08	38.3 39.1	39.2 39.9	29 30		o6 o8	30.7 31.9	37.2 37.1	22 22	
10 12	45.0 45.7	45.6 46.2	40 40		10 12	44.0 44.0	44.8 44.8	38		10 12	39.8 40.1	40.7 41.1	32 32		I0 I2	34.8 32.2	41.9 38.9	28 24	
14 16	45.0	45.7 45.4	40 39	-15.6	14 16	43.9 45.0	44.8 45.6	38 40	-14.9	14 16	4I.3 42.7	42.0 43.2	34 36	-I4. I	14 16	29.5 30.9	36.1 36.7	20 21	-1,
18 20	45.6 46.7	46.2 47.2	40 42		18 20	45.I 45.I	45.6	40		18	43.0	43.3	36		18	32.8	38.8	25	
22	47.0	47.6	43		22	44.4	45.4 44.8	39 38 38		20 22	43.8 44.1	44.0 44.5	37 38		20 22	32.3 34.3	38.3 40.9	24 27	! 
24 26	47·3 48.1	47.6 48.5	43 44		24 26	44.6 44.4	44.9 44.8			24 26	44.2	44.7 44.7	38 38		24 26	37.I 37.8	43.6 42.7	32 31	
28 30	47.6 47.3	48.0 47.5	43 43 43	-15.5	28 30	44.0 43.2	44.2 43.8	38 38 37	-14.8	26 28 30	40.8 40.1	41.7 39.7	33 31	-14.0	28 30	37.8 39.1 38.0	43·3 42.1	33 31	-I
32 34	47·3 47·3 46.6	47·5 47.0	43 42		32	42.9 42.9	43.I 43.I	37 36 36		32	38.6	40.2	30 28	14,0	32	40.7	44.3 44.8	35 36	Ī
30 32 34 36 38 40	40.I	46.6	41		34 36 38	43.1	43.6	36		36	36.9 37.4	38.6 39.4 38.9	20	:	34 36 38	41.3 40.0	43.2	34	
40	45.4 45.6	45.7 45.8	40 40		40 42	43.2 43.3	43.8 44.0	37 37		38 40	37 · 4 37 · 5 37 · 3 37 · 8	38.9	28 28		38 40	39.2 38.0	42.1 40.8	32 30	
42 44	45.2 46.0	45.5 46.3	40 41	-15.6	42 44	43·3 44·I	44.0 44.8	37 37 38	-14.6	42 44	37.8 37.9	39.6 39.2	29 29	-14.2	42	39. I	41.8 42.0	32 32	-I
46 48	45.3 45.7 44.8	45.6 45.6	40 40		44 46 48	44.9 45.2	45.8 46.0	40 40	,	46	40.I 38.9	41.3	32	-7.~	44 46 48	39.4 38.8	4I.I	31	
50	45.7	45.7 44.8	40		50 52	44.9	45.5	39 38		50	39.7	40.2 41.8	30 32		50	37.6 39.8	40.1 41.8	29 32	
42 44 46 48 50 52 54 56 58	44.5	44.5	39 38 38		52 54 56	44.1 43.8	44.9 44.3	37		52 54	50.7 51.1	51.0 59.3	48 22 55		52 54	39.8 40.3	41.8 41.8	32 33	
58 58	44·3 43·0	44·5 43.0	38 36		56 58	43.2 43.1	44.0 43.8	37 36		32 34 36 38 42 44 46 48 50 52 54 55 58	57.9 58.8	59.3 66.9 64.7	23 06 05		52 54 56 58	40.I 40.9	41.2 41.9	32	
											5-10	7.7	3		24 00	43.0	43.6	<b>3</b> 3 36	-I

Observers—W. J. P. and R. R. T., who alternated from 18h 20m to 18h 30m.

Correction to local mean time is + 32s. Torsion head at oh oom read 345° and at 24h oom read the same. Observer—R. R. T.

Thur	sday, De	cemb	er 24, 1	903		Ma	gnet s	cale inv	erted	Tues	day, De	ecembe	r 29, 19	03			Magne	t scale	erect
Chr'r time	Scalereadir	ıgs	East decli- nation	Temp.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca read	ings	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp C.
h m	d	d	0 ,	0	h m	d	d	. ,		h m	d	d	0 ,	0	h m	d	đ	۰,	•
6 00 02	49.7	49.3 48.2	22 36 37	-21.3	18 00	48.1 48.7	46.3 47.0	22 39 39	-18.9	12 00 02	38.8 38.8	40.9 40.9	22 32 32	-20.0	14 00 02	39.4 39.9	40.2 40.4	22 32 33	-16.3
04 06	49.4	47.9	37		04 06	48.5	46.9	39 38		04 06	39.8	40.9	33		04	39.9	40.4	33	
08	49.6	47.9 48.0	37 37		08	49.0	47.7 48.1	37		08	39.8 39.3	41.1 40.6	33 32		o6 o8	39.7 39.2	40.0 39.8	32 32	
10		47.8	37 38	0	10	49.6	48.3	37		10	38.9	40.2	32		10	39.2	39.8	32	
12 14		48.0 48.5	37 36	-21.0	12 14	49.3 49.3	48.3 48.3	37 37	-18.9	12 14	39.0 39.2	40.4 40.8	32 33	-19.3	12 14	39. I 39.8	39·7 40.2	32 33	-15.9
16		48.5 48.6	37		16	49.7	48.9	37 36		16	39.3	40.9	33	79.3	16	39.7	39.9	32	-5.5
18 20		48.2 48.2	37 37		18 20	50.2	49.3 49.4	36		18 20	39.3 38.4	40.8 39.8	33 31		18 20	39.2 39.1	39.8 39.3	32 31	
22	49.2	48.5	37		22	49.9	48.9	35 36 37 38 38 38 38		22	38. I	39.2	30		22	39.0	30.2	31	
24 26		48. i 48. <del>2</del>	37		24 26	49.1 48.3	48. I 47. 6	37		24 26 28	38.3 38.8	39.2	30		24 26	39.6	39.8	32	
28 28	49.2	48.3	37 37		28	48.5	47.8	38		28	38.5	39·7 39·3	3I 3I		28	40.1 40.2	40.2	33 33	
30		48. I	37 38 38 38 38 38 38 38 38 38 38 38	-20.7	30	48.7	47.7	38	-19.0	30 32	38.9	39.8	31	-18.8	30	39.8	40.I	32	-15.5
32 34		48. i 48. o	38		32.3 34	48.2	47.4 47.1	39		34	39.1 38.8	39.8 39.3	32 31		32 34	38.7 37.9	38.9 38.1	31 30	
34 36 38	48.9	48.0	38		34 36 38	48.2	47.1	39		34 36 38	39.0	39.4 39.8	31		34 36 38	38.6	38.8	31	
38 40		47.9 48.0	38 38		38 40	48.7 48.7	47.4 47.6	39 38 38		38	39.2	39.8 39.9	32 32		38 40	40.0 40.1	40.3 40.6	33 33	
42	48.7	47.8	38		40 42	48.2	47.3	39 38		40 42	38.7	39. I	31		42	39.7	40.I	32	
44 46		47·7 47·9	38		44 46 48	48.9 49.2		38	-19.0	44	38.8 39.1	39.2 39.9	31 32	-18.3	44 46.2	39.1 39.2	39.9 39.9	32 32	-15.0
48	49.0	48.0	38	-	48	49. I	48.0	37		48	39.2	39.9	32		48.2	38.9	39.2	31	13.0
44 46 48 50 52 54 56 58		48.0 48.1	38		50 52	49.0 49.0		37 38 38 38 37 38 37 38 37 38		44 46 48 50 52	38.8	39.2 39.2	31		50 52	38.3 38.3	38.9 39.3	30 31	
54	48.9	48.3	37		54 56	48.9	47.9	38		54	38.8	39.2	31		54 56	38.3	39.3	31	
56	49.0	48.7	37		56 58	49.0	48.0	37		54 56 58	39. I	39.3	31		56 58	38.2 38.5	39.3	31	
7 '00	40.0	48.8 48.9	37 37	-19.8	19 00	49.0 49.1	47.7 48.0	37	-19.2	13 00	39.9	40.1 39.8	33 32	-17.8	15 00	38.3	39.3 39.2	31 31	-14.2
02	49.3	48.8	37 36 36 36		02	48.9	47.7	38		02	39.2	39.5	32		02	39. I	39.7	32	
04 <b>0</b> 6		48.8 49.0	30		04 06	49.0		37		04	39.0	39.2 40.0	31		04 06	39.1 39.0	39.8 39.6	32 32	
о8	49.4	48.9	36		08	49.0	48.0	37		08	39.8	40.2	33		08	39.1	39.9	32	
10 12		48.7 48.3	37 37		I0 I2	49.0 49.2		37 37		I0 I2	39.6	40.1 40.2	32 32		10 12	39.2 38.1	39.9 38.9	32 30	
14	49.1	48.2	37	-19.4	14	49.I	47.9	37	-19.4	14	39.3 38.9	30.0	32	-17.3	14	38.9	39.8	32	-14.
16 18		48.1 48.6	37		16 18	48.3 48.9	47.6 48.0	38	1	16 18	38.9 39.1	39.8 39.8	32 32		16	40.0 39.2	40.9 40.1	33 32	
20		49. I	37 36 36		20	40.0	47.0	38		20	39. I	40.0	32		20	38. I	38.8	30	1
22		49.4	35		22	48.9	47.6	37 38 38 38 38 38 38		22	39.1	39.8	32 31		22	38.8	39.3	31 32	
24 26	50.8	49.5 49.4	35		24 26	48.9 48.8 48.7 48.1 48.6	47.9 47.7 47.6	38		24 26 •28	39. I 38. 9 39. 8	39·4 40.2	32		24 26	39.1 38.8 38.9	39.9 39.3	31	
28	50.5	49.5	35		28.5	48.1	47.6	39	-19.6	•28	40.2	40.8	33	75 0	28	38.9	39.3	31	
30 32	50.5	49.7	35 35 36	-19. I	30 32	48.7	47.7 47.1	38	-19.0	30 32	40.I 39.2	40.7 39.9	33 32	-17.0	30 32	38.0	39·5 39·3	31 31	-14.
34	49.0	49.2 48.3	37		34	48.7 48.9 48.7	47.3	38		34 36 38	39.2 38.7	39.0	31			38.9	39.3	31	1
34 36 38	48.9	46.3	37 37 38 38		30 38	48.7	47.2 47.9	30		30	40.I 40.0	40.3 40.2	33 33		34 36 38 40 42	38.7	39.0 38.9	31 30	
40	49.0 48.8 48.8	48.5 48.1	38		40	49.0 48.6 48.8	47.7	38		40	39.2	39.9	32		40	38.3	38.9	30	1
42	48.8	47.9	38	10.0	42	48.8 49.0	48.0 48.5	39 38 38 38 38 38 38 38	-19.8	42	39.1	39.7 40.1		-16.8	42	39.0 38.9 38.7 38.3 38.3 38.5 38.5 38.3	39. I 38. 9	31	-14.
44 46	48.9	48.2 48.1	37 37	-19.0	46	49.0	48.8	37	19.0	46	39.1	40.0	32	10.0	44 46 48 50	38.3	38.9	30	14.
48	49.6	48. I	37 38		48	49.7	49.2	37 36		48	39.2	40. I	32		48	38.9	39.3	31	
50	49.I	47.7	38		50 52	50.3 50.7	49.1 48.6	36 36		50 52	39.2 39.3				50 52	38.3	40.6 40.6	32 32	
5 <u>4</u>	49.1 48.9	47.9 47.6	37 38 38		54	49.9	47.7	37		54	39.2	40.2	32		52 54 56	39.1	40.7	32	3
44 46 48 50 52 54 56 58	48.7	47.I	38		34 36 38 40 44 46 48 50 52 54 55 58	49.8	47·7 47.8	37 38		42 44 46 48 50 52 54 56 58	39.3	40.2 39.9			56 58	38.8 39.3		32	
58	48.2	46.7	39		20 00	49.9 49.8 48.9 50.8	49.3	35	-19.7		09.1	39.3	J2		16 00	39. I	40.4	32	-14.

Correction to local mean time is + 21s.

Torsion head at 15h 40m read 345° and at 20h 15m read the same.

Observer—R. R. T.

Correction to local mean time is — Im o8s. 90° torsion = 24.′8. Torsion head at 7h 55m read 201° and at 16h 40m read 210°. Observer—W. J. P.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedr	nesday, Decen	nber 30,	1903		Ma	gnet s	cale inv	erted	Wed	nesday,	Decer	nber 30,	1903		Ma	gnet so	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r	Scaread	_	East decli- nation	Temp. C.	Chr'r time	Sc. read Left	ings	East decli- nation	Temp C.
h m	d d	0 /	-18.8	h m 2 00	d	d 29.9	22 45	-17.4	h m 4 00	d 37·3	d 37.0	。 , 22 34	• -17.0	h m 6 oo	d 34.3	d 33.7	22 39	-16,5
0 00* 02 04 06	38.8 32.2 36.7 35.3 37.1 35.3 37.2 35.2	22 37 36 36 36	-10.0	02 04 06	30.4 33.2 31.9 32.3	32.3 31.3 32.0	41 43 42	17.4	02 04 06	37.8 37.8 39.3 40.5	37.5 39.0 40.1	34 31	17.0	02 04 06	32.2 33.5 33.1	32.0 33.3 33.1	42 40 41	10,5
08 10	Lost 37.6 35.6	35		08 10 12	32.3 31.3 33.8	32.0 31.1	42 44 40		08 10	41.3 42.3	40.9 42.1 41.8	29 28 26		08 10 12	31.8 30.0 30.6	31.8 30.0 30.3	43 46	,
12 14 16	37.8 35.8 37.4 35.6 35.9 34.1	35 36 38	-18.3	14 16 18	32.8	33.5 32.3 32.3	42 42	-17.3	12 14 16 18	42.0 41.3 38.8	40.7 38.2	27 28 32	-16.9	14 16 18	36.	.0a .0a	45 36 30 31	-16.4
18 20 22	36.6 35.1 36.6 35.2 35.6 34.1	37 36 38		20 22	33.6 31.3 28.3	33. I 30. 3 28. 0	40 44 48		20 22	37.2 35.6 34.6	36.8 35.3 34.2	35 37 39		20 22	34 30	. 5 <i>b</i> . 3 <i>b</i>	39 45	
24 26 28	34.9 33.7 35.3 33.7 35.3 33.5	39 39 39		24 26 28	30.9 30.9 29.1	30.5 30.5 28.8	44 44 47		24 26 28	34.1 32.5 31.6	33.8 32.5 31.3	39 42 43	-16.9	24 26 28	37 37.6	30. I .2a 37.4	45 34 34 28	-i6.3
30 32 34 36	34. I 32. 3 33. 3 3I. 3 33. 7 30. 4	41 42 43	-18.1	30 32 34	29.7 31.0 35.0	29.3 30.8 34.4	46 44 38	-17.3	30 32 34	31.7 31.8 31.0	31.5 31.6 30.8	43 43 44	-10.9	30 32 34	41.3 39.4 37.4	41.0 34.6 37.2	35 34	-i0.3
38 40	31.1 29.0 30.3 27.3 30.6 29.3	43 46 48 46		34 36 38 40	35.6 35.4 30.0	35·3 34.2 29.0	37 38 46		34 36 38 40	29.6 29.3 29.3	29. I 29. I 29. I	47 47 47		34 36 38 40	37.6 35.6 40.9	37.4 35.6 40.6	34 37 29	
42 44 46 48	32.6 31.3 33.8 32.2 33.2 32.5	43 41 41	-17.9	42 44 46 48	27.0 29.4 27.8	26.7 29.0 27.4	51 47 49 48	-17.2	42 44 46 48	33.5 36.8 40.0	32.9 36.8 40.0	35 30 28	-16.8	42 44 46	25	43.0 .4 <i>b</i> .5 <i>b</i>	25 53 54	-16.4
50 52	32.6 31.6 33.3 32.7 35.3 34.3	42 41 38		50 52	29.2 30.8 29.3 27.8	28.2 30.2 28.3	45 47		50 52	4I.3 4I.5 42.0	4I.I 4I.3 4I.9	28 28 27 28		48 50 52	21.0 23.1 26.6	21.1 20.2 22.8 26.2	22 59 23 00 22 57	
54 56 58	34.6 33.7 35.8 35.0 37.1 36.0 37.6 37.0	39 37 36 34	-17.8	54 56 58 3 00	29.3 28.6 28.0	27.1 28.7 28.2 27.4	50 47 48 49	-17.2	54 56 58 5 00	41.3 40.3 40.5	41.3 40.3 40.5	29 29 30	-16.7	54 56 58 7.00	33·7 26	32.7 .5 <i>b</i> 22.0	51 41 51 58	-16.3
02 04 06	37.6 37.0 38.3 37.3 38.7 38.3 38.4 37.8	33	17.0	02 04 06	27.5 24.4 25.3	27.I 24.0 24.8	50 55 53	17.2	5 00 02 04 06		40.1 41.0 41.4 .3b	28 27 26	-10.7	02 04.5 06	28 34.6	.0a 34.3 .0b	49 39 22 38	
08 10 12	39.3 38.7 36.3 35.3 36.0 35.5	32 37 37		08 10 12	26.1 30.1 28.9	25.8 27.3 28.5	52 48 48		08 10	40	.3b .3b .39.2	29 31 31		08 10 12*		.0a 59.0 27.5	23 09 22 00 21 II	
14 16 18	38.0 37.4 37.0 36.1 36.8 36.0	34 36 36	-17.8	14 16 18	30.9 29.9 27.3	30.5 29.5 26.7	44 46 50	-17.2	14 16 18	36.3 35.0 34.5	35.9 34.9 34.3	36 38	-16.5	14* 16 18*	25.6	25.6 .0a 37.9	23 45 23 07 22 21	-16.2
20 22 24	35.5 35.3 35.7 34.7 34.1 33.3	37 38 40		20 22 24	24.8 23.0	24.8	54 57 58		20 22	34.9	34.7 .7b 30.6	39 38 40 44		20 22 24*3	22.3 22.2 28.0	14.7 19.5 24.5	58 22 55 23 24	
26 28 30	33.0 32.3	42	-17.7	26 28 30	22.2 22.2 23.3	22.0 22.0 23.3	58 58 56	-17.0	24 26 28 30	29.0 30.9 33.4	28.7 30.8	47 44 40	-16.4	26.2 28 30	39.6 41.0 38.8 28.3 38.3	24.5 36.8 38.0 34.0	05 03 08	
32	30.6 29.3 30.0 28.8 30.5 28.8 32.3 30.4	47 46 44		32 34 36	26.7	26.0	51		32	34.2	34.0 33.6	39 40 39		32 34 36 38	37.7	21.8 29.8 28.3	26 12 14	-16.0
38 40 42	33.3 32.0 33.5 31.7 31.0 29.3	41 41 45		38	35·3 35·7 35·2	33.1 34.4 34.9 34.6 35.6	40 38 37 38		38 40 42	34.5 35.9 34.9 35.8	35.5 34.9 35.8	37 38 36		38 40 42*	25.0 16.5	17.2	32 45 56	
34 36 38 40 44 46 48 55 54 55 58	31.3 30.3 31.1 30.0 32.1 31.0	44 45 43	<b>-17.</b> 5	40 42 44 46 48 50 52 54 56 58	40	35.6 .0a 42.3 40.0	36 30 26	-17.0	35 36 38 40 44 46 48 55 55 55 58	35.4 33.8 34.5 35.9 36.3 36.3 36.7	35.4 33.8 34.3	37 40 39	-16.5	40 42* 44 46 48* 50 52 54 56 58	65.5 71.5 69.9 43.0	58.7 30.0	45 46 33	-16.0
50 52 54	30.9 30.1 30.6 30.0 30.0 29.3	45 45 46		50 52 54	38.0	37.6	29 33 33		50 52 54	35.9 35.9 36.3	35.9 35.9 36.3	36 36 36		50 52 54	45.0 44.0 45.8	30.5 33.2 44.2	31 29 19	
56 58	31.5 30.6 32.2 31.1	44 43		56 58	38.3 39.5 37.8	39.0 37.5	31 34		56 58	36.3 36.7	36.3 36.3	36 35		56 58	49.7 53.9	48. I	06	

Observer-W. J. P.

Observers—W. J. P. and R. R. T., who alternated from 7h 46m to 7h 56m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

	e	-1-	E			C-	. 1 -	T-2 4					<b>-</b>			0	1-	Tr+	
hr'r time	Sca read	ings	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ings	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Tem C.
m	đ	ď	. ,	•	h m	đ	d	,0 ,	•	h m	d	đ	. ,	0	h m	d	d	0 /	•
00	52.9 50.9	49.9 48.3	23 09 12	-15.1	10 00 02	39·4 49·3	36.0 43.0	21 39 26	-14.0	I2 00 02	27. 32.8	0a 29.7	22 27 20	-13.8	14 00 02	60.0 54.8	56.8 52.5	23 03 II	-14.3
04	50.9	47.2	13		04	34.8	30.0	47		04	19.2	17.0	41		04	54.3	51.9	12	
об 08	47.7 45.8	46.0 45.1	16		06 08	33·3 30.7	27.0 26.1	2I 53		06 08	17.0 21.2	15.1 19.0	44 38		06 08	56.2 53.0	54.8 51.2	08 13	
I0 I2	47.6 39.0	45·5 37·2	30		10 12	22.8	17.6 10.7	22 06 22 17		I0 I2*	12.8 58.2	9.9 48.0	22 52 23 II		IO I2	53.0	52.3 51.0	12 14	
14	37.8	35.4	33	-14.9	14 16	38	.2a	21 38	-14.0	14.5	60.5	52.2	06		14	59.3	59.0	02	- <b>14</b> .
18 18	39.2 39.1	35.2 36.0	32 31		18		2I.I .7a	22 05 21 52		16 19	55.9 58.9	47.0 50.2	14 09	-13.9	16 18	55·3 58·4	55.0 58.0	08 04	
20 22	34·3 57·1	29. I	40		20 22	36 31.9	.2b 29.7	41 50		20 22	60.4 65.2	50.6	23 07 22 58		20 22	54.8 47.7	54.0 47.0	I0 2I	
24	61.2	53·9 55·9	23 03 22 58		24 26	40.6	37.8	37		24 26	63.9	57.I 55.7	23 OI		24 26	46.9	46.2	22	
26 28	57·7 65.8	52.8 61.8	23 03 22 50		20 28.5	31.8 25.9	29.7 24.2	2I 59		26 28	64.3 66.1	57.0 58.9	22 59 56		26 28	47·4 50.2	45.6 48.8	22 17	
30	74.9 77.2	69.1 73.9	37 31	<b>-14.6</b>	30.5 32	23.2 23.3	22.2 2I.0	22 02 03	-13.8	30 32	63.9 63.8	59.0	58 22 58	-14.0	30 32	49.4 49.2	48.3 48.7	18	-14.
32 34* 36	47.I	32.7	29 28		34 36	25.0	22.0	10		34	62.3	59.2 58.2	23 00		34	49.0	48.7	18	
36 38	46.I 41.5	34.8 28.2	28 36 36		36 38	24.0 13.0	22.8 10.4	0I 20		34 36 38	62.0 62.4	58.2 58.1	23 00		34 36 38	48.2 50.2	45.7 48.6	2I 17	
40	43.2	27.0	36 36		40 42	II.2 IO.7	10.2 9.7	2I 22		40 42	62.0	59.I 51.8	22 59 23 10		40 42	55·3 52.0	54·4 51.0	o8 14	
42 44	37.2 39.4	33·3 35.1	33	-14.4	44*	56.2	49. I	26	-13.8	44	55.9 51.8	46.4	17	-I4. I	44	52.3	51.3	13	-14
46 48	43.6 42.9	40.9 39.2	25 27		44* 46 48	59.9 62.9	52.1 59.6	2I I3		46 48 50	44.0 36.1	38.4 30.4	30 42		44 46 48	52.4 47.1	51.8 45.5	13 22	
50	37.5	34.8	34 40		50 52	56.1 63.2	52.0	24 I4		50 52	37.I 34.5	32.4 29.7	40 44		50 52	47.I 42.3	46.0 41.3	21 29	
52 54 56		.7a	32		54 56	61.3	57.8	15		54	37.9	32.4	39		54 56	41.0	39.3	31	
56 58	42.2 45.8	37·3 44·9	29 20		58	65.I 71.I	65.3	09 22 02		54 56 58	45·9 44.8	40.7 40.1	27 28		50	41.9	40.3 47.0	30 20	
00	36.9 37.0	31.9	37	-14.2	II 00* 02	48.9	45.9 47.3	2I 55 2I 52	-13.4	13 00 02	54·7 53·9	51.1 49.2	11	-14.2	15 00 02	46.0	44.7 41.0	23 30	-15
02 04	48	.0a	34 16		04 06	45.2	41.8	22 OI		04	58.1	54.5	06		04	36.9	36.6	37	
o6 o8	42.7 37.8	40.7 34.0	26 34		00	41.5 37.9	36.4 32.0	08		06 08	58.8	57.2 57.0	04 04		06 08	32.3 37	31.6 .0a	44 37	
10	32.6	28.8	43		10 12	39.0 30.9	34.7	12 25		10 12	49.3 44.1	47·4 41.2	19 28		10 12	45.0 51.3	45.0 51.3	24 14	
12 14	29.2 40.9	24.9 39.8	49 28	-14.0	14	32.5	27. I	23	-13.4	14	42.I	38.9	31	-I4. I	14	59.0	57.0	03	
16 18	44.3 48.1	43.2 46.3	23 17		16	34.0 31.0	27.6 24.1	21 26		16	44.6 42.0	41.4 39.9	28 31		16	52.3 53.0	49.6 49.5	15 14	
20	41	.Qa	25 16		20 22	25. I 24.9		34 35		20 22	39·4 37·5	39.0 36.5	33 37		20 22	44.2 38.3	42.I 35.3	27 37	
22 24	56.I	46.0 49.1 44.0	09		24	24.I	19.8	35		24	35.0	35.0	39		24	38.3	35.5	37	
26 28	47.7	44.0 51.1	19		26 28	24.6 22.9	20. I 18. 2	34 37		26 28	37.8 38.8	36.7 36.8	37 36		26 28	42.9 43.4	40.3 40.6	29 29	
30	41	.Ib	27	-14.0	30	27.1 21.8	23.5	37 30 37	-13.5	30 32	43·3 43.0	41.0	29 29	-14.2	30 32	44.4 43.8	41.6 40.3	27 29	
32 34	61.3	43.1 54.2	20 01		32 34	17.2	13.5	45		34	49.2	46.6	20		34	40.0	39.0	33	
36 38	55.2	40.0	22 09 21 52		34 36 38	17.9 11.7	14.8 10.6	44 52		36 38	49.0 51.1	45.8 48.1	2I I7		34 36 38.	41.0 3 44.0	40.5 43.5	31 26	,
40	65.9 70.7 61.8	65.6	44		40	15.1	12.8	48		40 42	56.9 52.5	54·4 49.2	o8		40 42	45.2 46.3	44.0 44.6	24 23	
42 44	67.1	63.7	48	-14.0	42 44	12.7 13.0	12.5	49	-13.7	44	56.0	53.2	09	-14.4	44	52.2	50. I	14	-15
46 48	64.1	59.8 69.3	44 58 48 54 38		44 46 48	9.2 14.6	7.2 12.2			44 46 48	56.9 58.7	54.8 56.7 61.8	07 23 04		44 46 48	57.5 56.3	55.4 55.0	06	1
44 46 48 50 52* 54 56 58	75.2 74.9	70.2	37		50	17.3	14.1	45		50	03.9	61.8	22 56		50	54.0 46.6	52.2	11	
52* 54	47.3 48.8	37·3 40.0	32 28		50 52 54 56 58	19.9 20.3	16.7	40 40		50 52 54 56 58	57·3 58·3	56.0 56.7	05		50 52 54 56 58	58.6	54.3	23 06	)
56	37.6 34.7	27.9	47 49		56	17.2 22.8	14.2 21.8	45 34		56 58	58.3 55.8 60.9	54.2 58.9	09		56	62.3 46.3	60.5 44.0		

Observer-R. R. T.

Observers—R. R. T. and W. J. P., who alternated from 14h oom to 14h o8m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedr	nesday, Dece	mber 30,	1903		Ma	ignet s	cale inv	erted	Wed	nesday	, Decer	nber 30,	1903		Ma	ignet s	cale inv	rerted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- ration	Temp. C.	Chr'r	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	
h m	d d	0 ,	0	h m	d	d	. ,	•	h m	d	đ	• ,	۰	h m	d	d	. ,	•
16 00 02	44.0 41.3 48.8 46.3	23 28	-15.3	18 00 02	28.0 31.0	27.9 31.0	22 49 45	-15.5	20 00 02	40.2 41.2	38.4 40.1	22 31 29	-13.9	22 00 02	37.2 42.8	36.3 41.4	22 36 27	-13.0
04 06	48.6 45.3 48.6 46.3	21		04 06	29.7 32.6	29.3 32.6	47 42		04 06	41.6 38.0	40.6	29		04 06	44·5 42·7	42.7 40.3	25 28	
o8	45.6 42.8	25		08	32.1	32.I	43		o8	38.3	37.0 37.9	34 33		о8	41.8	39.2	30	
I0 I2	47.2 44.5 51.2 49.5	22 15		10 12	32.3	32.3 35.0	42 38		10 12	37.I	.8a	35 34		I0 I2	4I.3 44.4	39.I 42.3	30 25	
14	57.0 54.6	07	-15.3	14 16	32.6	32.4	42	-15.6	14 16	36.4	36.1	34 36	-13.8	14	43.3 39.8	42.2	25 26	-12.9
18 18	60.3 57.6 60.5 58.2	OI		18	33.6 35.6	33.0 35.3	41 38		18	38.8 46.7	36.9 44.8	34 21		16 18	39.8 36.9	38.1 35.8	32 36	
20 22	56.2 53.6 53.8 52.0			20 22	32.3 31.3	31.6	43 45		20 22	45·4 42.2	43.9	23		20 22	34.9 33.9	33·5 32·2	40 41 38	
24	56.0 54.0	08		24 26	27.6	30.3 26.8	51		24 26	37.1	39·9 34·7	29 37		24	36.3	34.7	38	
26 28	57.6 55.4 59.7 58.0	06		20 28	32.5 39.8	32.3 37.7	42 32		26 28	36.6 40.2	35.2 37.8	37 32		26 28	38.0 38.0	37.2 36.9	34 35	
30	61.0 59.3 61.3 60.5	23 00 22 59	-15.5	30	40.6	39.5	30	_TC 2	30	42.2	39.7	29	-13.6	30	39.9	38.2	32	-12.3
32 34	61.0 59.5	23 00		32 34	39.5 38.2	38.3 36.8	32 34	-15.3	32 34	44.3 44.1	41.9 42.2	25 25		32 34	39.2 40.2	37⋅5 38. I	33 32	
34 36 38	62.0 60.9 61.7 60.5	22 58 59		34 36 38	37.9	37.2 42.1	34 26		34 36 38	41.9 42.2	39·3 40.2	30 29		34 36 38	38.9 38.3	37.1 36.8	34 34	
40	62.7 61.5	57		40	41.9	4I.I	28		40	44.0	42.9	25		40	36.7	35.0	37	
42 44	69.7 68.5 65.0 64.0		-15.5	42 44	40.1 40.0	39.6 39.2	30 31	-14.9	42 44 46 48 50 52 54 56	47.2	44.9 45.0	2I 2I	-13.4	42 44	38.0 39.9	36.9 37.9	34 32	-I2.0
44 46 48	67.8 66.8 68.0 67.2	49		44 46 48	40.8 39.9	39.6 38.7	30 31	, -	46	47.2	45.I	21	-5.4	44 46	41.2	38.9	30	
50.3	70.1 69.3	45 45	,	50	38.7	37.3	34		50	42.3 40.8	40.2 38.2	28 31		48 50	39.0 37.8	37.2 36.8	34 35 36	
52 54	70.0 69.0 69.9 69.1	45 45		52 54	37.9 37.0	36.7 35.9	35 36		52	42.2	39.9 40.8	29		52	37.0 38.2	35.8 36.3	36	
54 56	70.6 69.5	45		54 56 58	36.5	35.4	37		56	43.2 42.9	40.6	27 28		54 56	37.8	36.1	35 35	
58 17 00	69.6 68.6   66.7 65.6	51	-15.6	19 00	35.0 35.2	33·9 33·3	39 39	-14.3	58 21 00	42.3 42.0	39.8 39.1	29 20	-13.4	58 23 00	38.1 37.9	37.I 37.I	34 34	-11.5
02 04	67.5 66.3 68.9 68.0	49		02 04	35.4	34.2	39	, ,	02	43.2	39.8	29 28	-5.4	02	39.9	37.9	32	
оĠ	68.2 67.5	47 48		06	35.1 37.5 39.8	33.9 36.1	39 35		04 06	40.9 40.1	37.7 37.1	31 32		04 06	37.9 36.1	36.3 34.3	35 38	
08 10	66.9 66.3 65.0 64.0	50		08	39.8	38.6 38.7	32 31		08 10	40.8 41.4	37.1	32		08 10	34.2	32.7	41 42	
12	61.3 60.5	59		12	39.9	38.8	31	!	12	37.9	37.9 34.8	31 36		12	33·3 35·2	31.9 33.3	39	
14 16	61.0 60.4 68.6 68.4	59	-15.7	14 16	37.9 38.8	37.0 37.0	34 34	-14.2	14 16	35.2 38.0	32.2 35.1	40 36	-13.3	14 16	35·3 34·3	33.0 31.3	40 42	-II.2
18 20*	78.0 78.0 51.6 43.3	32		18 20	40.8 38.0	38.2 36.2	31 35		18	42.0	38.0	30		18	34.2	31.3	42.	
22	59.0 52.0			22	37.8	36.2	35		20 22	45·3 47.0	41.3 43.1	25 22		20 22	35.2 35.9	32.I 34.I	40 38	
24 26	58.0 51.0 54.6 48.8	12		24 26	40.9 41.9	39.I 40.2	30 29		24 26	45.8	42.7	24 28		24	35.9 34.8	32.8	40	
28	48.3 42.5	22		28	41.6	40.2	29		28	42.9 45.9	40. I 43.9	23 26		26 28	36.2 38.0	34.0 35.9	38 35 34	
30 32	44.4 38.6 40.3 35.3	28 34	-15.5	30 32	41.1 38.9	39.9 37.4	30 33	-14.1	30 32	44.2 41.2	42. I 39. 6	26 30	-13.2	30 32	38.0	36.9 37.2	34 33	-11.0
34	40.3 35.3 37.3 32.0 37.2 32.3	39		34 36 38	37.0 35.8	36.8 34.8	35 38		34	41.9	39.8	29		34	39.5 39.3 39.8	36.9	33 34	
36 38	37.0 35.6	39 36		38	35.2 36.5	34. I	39		34 36 38	41.9 45.8 45.1 48.1	44.9 43.8	22 23		34 36 38	39.8 39.8	37.1 37.2	33 33	
40 42	39.0 38.2 34.1 33.5	33		40 42	36.5 41.1	34.9 39.1	37 30		40	48.1 48.6	47.5 47.8	23 18		40	41.0	38.2	31	
44	34.7 33.6	40 40	-15.6	44	45.7	43.9	23	-14.0	44	43.9	43.3	18 25	-13.0	42 44	41.3 43.2	38.7 40.2	31 28 28	
40.2 48	36.3 35.7 35.2 34.4	37 38		44 46 48	44·3 41.7	42.3 39.7	25 29		46 48	43.9 41.7 40.8	40.3 39.0	29 31	_	44 46 48	43.2 42.8 45.2	39.9	28 24	_
50	33.8 33.3	40		50	38.0	3б. г	35 36		50	4I.9 4I.5	40.2	29		50	47.I	42.9 43.7	22	
54 54	31.5 31.2	41 44		54	37.I 37.7	35.2 35.7	30 36		52 54	4I.5 4I.I	39.8 39.9	29 30		52.3	45.I 41.8	4I.7 38.1	25 31	
42 44 46.2 48 50 52 54 56 58	31.3 30.8 30.0 29.6	45 47		50 52 54 56 58	36.9 38.0	35.7 35.3 36.8	37		40 42 44 46 48 50 52 54 56 58	41.1 37.2 36.8	36. I	<b>3</b> 6		50 52.3 54 56 58	39.3	36. I	34	
50	J0.0 mg.0	47		30	50.0	30.0	34		50	30.0	35.6	36		58 24 00	37.9 37.8	35.9 35.8	35 36	- 10.9

Observers—W. J. P. and R. R. T., who alternated from 18h 24m to 18h 34m.

Correction to local mean time is — Im 15s. Torsion head at oh oom read 225° and at 24h 20m read the same. Observer—R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Thurs	day, Decemi	per 31, 1903	Ą	1	Magne	et scale	erect	Frida	y, Janu	ıary I,	1904			Magne	et scale	e inve	erted
Chr'r time	Scale readings Left Right	East declination C.	p. Chr'r time	Sca readi Left	ings	East decli- nation	Temp. C.	Chr'r time	Sca readi	ings	East decli- nation	Temp. C.	Chr'r time	Scale reading Left Ri	gs de	Cast ecli- ation	Temp.
h m 20 00* 02	d d 44.7 45.2 42.9 44.0	23 27 -15. 25 22	h m 22 00 02 04	d 28.7 30.0 23.6	d 40.2 40.4 33.8	22 25 26 16	-11.0	h m 16 00* 02 04	d 49.2 50.5 52.9	d 49.0 49.2 51.7	22 44 42 38	-15.0	h m 18 00 02 04	67.4 61 66.1 60	a	2 15 16 19	• -12.5
04 06 08 10 12 14 16	41.4 42.3 42.1 42.8 41.0 42.2 39.9 41.2 38.7 39.9 37.4 37.5 34.0 36.0 34.9 36.5	22 20 18 15 -14.	06 08 10 12 14 16 18	28.7 25.1 20.1 26.2 28.0 36.7 40.1	38.7 35.2 28.2 33.4 35.2 42.1 46.2	24 18 09 18 20 32 38	-1o.8	06 08 10 12 14 16 18	56.1 56.8 60.2 62.8 63.2 64.2 63.3	54.3 56.0 56.7 58.2 59.8 60.8 60.6	33 31 28 25 23 22 23	-14.9	06 08 10 12 14 16 18	63.9 55 63.1 58 63.8 55 62.4 58 63.6 55 65.1 65	9.1 3.8 9.6 8.1 9.9 1.8 1.1	19 20 19 22 18 17 17	-12.2
20 22 24 26 28 30 32 34	35.3 36.6 38.9 41.1 39.5 41.4 40.4 41.0 40.0 41.2 37.1 40.8 38.2 41.4 35.0 39.0	19 20 21 20 18 –13.	32	41.7 37.3 32.1 30.0 30.2 28.8 28.6 29.0	47.2 44.6 37.6 36.2 36.0 33.9 32.0 32.8	40 35 25 23 23 20 18	-10.7	20 22 24 26 28 30 32 34	50.1 50.8 54.8 53.8 52.3 51.8 51.6	58.7 56.9 54.2 52.1 50.1 49.1 49.7	25 28 32 36 37 39 40 40	-14.5	22 24 26 28 30	58.9 56 58.0 55 56.8 54 52.6 56 47.8 44 38.2 33 21.1 18	6.3 5.8 4.7 0.2 4.7 5.0 2 8.2 2	25 26 28 34 42 57 3 26	-I2. I
34 36 38 42 446 85 52 456 85 55 58	34.0 37.6 35.7 39.3 33.0 36.9 33.0 37.0 33.0 37.4 34.4 37.9 36.2 39.6 37.0 40.3	16 11 12 12 13 16	34 36 38 40 42 44 46 48 50 52 54 56 58	30.8 32.0 31.3 36.2 38.8 37.8 35.6 34.8	34.2 35.1 38.8 39.5 41.9 41.0 37.8 37.7	22 23 26 30 34 32 28 27	-10.6	34 36 38 40 42 44 46 48 50	51.4 51.1 50.8 51.1 50.2 49.6 50.2 50.2	49.2 48.8 49.2 50.2	39 40 40 40 41 42 41 39 38	-14.0	34 36 38 40 42 44 46 48 50*	22.4 20 22.8 20 34.7 3 36.7 3 36.2 3 21.3 20 62.5 49	4.9 2 3.8 2 0.2 2 9.7	40 21 21 3 01 2 58 2 59 3 22 42	-12.0
52 54 56 58 21 00 02 04 06	37.8 40.9 37.4 40.0 36.8 38.9 34.9 36.8 34.0 36.0 34.7 36.0 40.8 42.4	18 17 16 13 12 –12.		44.2 48.0 51.0 52.0 49.5	67.2	43 48 54 55 50 22 54 23 15 10	-10.4	52 54 56 58 17 00 02 04 06	51.2 53.2 53.9 54.6 54.2 53.9 54.1 50.1	50.8 52.7 53.2 53.8 53.0 53.0 53.2 49.3	35 34 33 34 35 34	-13.5	52 54 56 58 19 00 02 04 06	38.5 3 64.1 5 73.0 6 69.0 6 74.7 7 77.0 6	0.0 1.1 0.8 7.1 2.2 0.1 9.8 4.2	42 15 40 19 26 16 14 11	-12.0
08 10*2 12 14 16*2 18	40.8 47.8 27.9 30.0 31.1 61.2 28.7 62.0 43.5 71.5	50 34 45 23 21 -12 22 21 20 22 39	08 10 12 0 14 16 18 20	59.0 48.0 54.0 49.8 50.0 39.8 48.0	65.5 56.5 54.0 58.6 55.2 64.9 70.0 38.2	23 08 22 53 56 56 53 22 53 23 03	-10.2	08 10 12 14 16 18 20 22	51.5 54.1 57.3 59.0 58.0 55.8 55.0	50.2 52.9 56.4 58.5 56.9 54.7 53.8	40 38 34 29 26 28 31 32		08* 10 12 14 16 18 20 22	52.3 4 57.8 4 62.9 5 65.8 5 66.9 6 68.8 6 69.2 6	4.5 2 8.7 2 4.2 2	23 03 22 56 23 47 22 41 39 36 34 32	-11.8
22* 24*3 26* 28.3 30 32 34 36 38	58.0 74.6 40.2 57.5 38.5 53.5 19.8 39.6 13.0 37.8	22 58 23 57 30 25 -11 23 00 22 53	32 34 36	4 25.4 37.8 42.0 39.3 30.3 30.2 32.0	33.0 57.0 60.9 59.2 49.2 47.9 37.8	23 31 22 53 23 00 22 56 41 40	-10.0	24 26 28 30 32 34 36 38	59.4 58.0 58.1 57.3	58.2 56.9 57.2 56.7	22 25 27 26 27	-12.9	24 26 28 30 32 34* 36	73.2 6 74.0 6 74.9 7 76.2 7 78.2 7 50.2 4 47.6 3	7.3 8.8 70.2 72.7 74.1 40.1	29 26 25 22 19 21 26	-11.8
40* 42	14.9 27.7 8.4 28.4 28.2 47.6 21.3 41.4 24.0 41.5 24.9 42.1 24.1 39.2 23.8 38.2	30 20 22 23 20 19	38 40 42 44 46* 48.	45.2 52.0 53.0 54.0 29.0 2 55.9	65.3 57.7 68.7 66.1 58.9 75.3	23 00 05 15 13 23 47 24 21	-9.7	40 42 44 46 48	55.9 53.2 57.7 64.3 66.9 73.0	55.3 52.8 56.3 62.8 65.8 71.7 71.2	30 34 27 17 12 03 02	-12.8	38 40 42 44 46 48*	48.9 3 54.8 4 53.9 4 35.1 3 45.6 3 14.8 1	13.1	23 13 13 37 22 27 25 14	-11.7
44 46 48 50 52 54 56 58	23.5 37.2 26.7 29.2 27.6 40.0 28.0 40.2	18 14 24 24	53* 55* 56* 58* 24 00*	5 53.1 41.7 28.7 12.7	60.8 71.3 60.9	23 02 23 06 24 17 23 19 22 51	-9.3	50 52 54 56 58	74.1 64.7 54.5 61.9	71.5 50.2	34		51*8 54* 56* 59* 20 00*	64.9 1 70.9 1 65.8 4	13.7	25 32 22 47 21 52 54 31	

Correction to local mean time is — Im 33s.

Torsion head at 19h 25m read 225° and at 24h 10m read the same.

Observers—J. S. V. (R. R. T. observed readings 23h 53.5m to 24h 00m.)

Correction to local mean time is — Im 47s. 90° torsion = 22.'I. Torsion head at 15h 30m read 228° and at 20h 10m read 268°. Observer—R. R. T.

# SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

# Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Sunda	y, January 3	, 1904			Ma	gnet scal	e erect	Sund	ay, January	3, 1904			Magı	net sca	ale inv	erted
hr'r me	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	Scale reading Left Ri	gs decl	i- Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readin	ngs	East decli- nation	Temp C.
m	d d	0 7		h m	đ	d °	, ,	h m	đ đ	0 ,	0	h m	ď	đ	· /	
00* 02 04	50.5 51.8 54.6 58.1 58.2 61.8	22 45 53 22 58	-21.6	2 00 02 04 06	58.5 59 57.8 58 56.3 57	9.6   23 ( 3.8   22 <u> </u> 7.4		4 00 02 04 06	69.4 68.7 67.2 66.3 64.1 62.9 64.4 62.7	23 05		6 00 02 04 06	38.8 3 49.7	28.7 34.1 43.8 47.1	23 58 50 34 29	-16.3
06 08 10 12	59.2 62.8 61.7 64.7 64.2 66.6 64.6 65.9	23 00 03 07 06		08 10 12	54.7 50 56.2 58 57.5 59	6.9 8.3 22 9.7 23	54 58 50	08 10 12	65.8 62.9 65.3 63.1 64.1 61.8	03 03 05	-16.o	08 10 12 14	56.7 58.6	50.6 51.7 54.9 55.2	24 22 18 18	- <b>16</b> .;
14 16 18	64.2 65.9 65.9 67.3 67.0 68.4	06 08	-20.8	14 16 18 20	59.8 6 61.1 6	2.3	00 -17.4 02 04 03	14 16 18 20	62.0 59.5 62.0 59.5 61.2 59.5 62.0 60.2	09		16 18 20	60.8 63.9 64.1	57.2 61.7 61.0	15 09 09	-10.
20 22 24 26	68.0 69.1 68.9 70.0 69.1 70.5 67.0 68.7	12 14 14 11		22 24 26	61.1 6 62.3 6 62.1 6	3.0 3.9 3.8	05 07 06	22 24 26	59.8 58.8 61.4 60.7 63.9 63.2	09		22 24 26 28	58.7 58.1	58.8 55.3 55.3 56.1	14 18 19 17	
28 30 32	65.6 67.5 64.0 65.4 64.1 65.2 65.2 66.7	09 06 06 08		28 30 32	63.4 6 64.0 6	5·3 4·3	09 09 09 09 09	28 30 32 34	60.8 60.4 58.3 57.9 57.6 57.3 57.0 56.5	13	-16.1	30 32	59.8 57.9	57.1 57.0 55.8	16 16 19	-16.
34 36 38 40	63.2 60.7 64.9 65.8 63.8 64.8 62.5 64.0	07 06 04		34 36 38 40	68.0 6 61.7 6 60.8 6	8.4 2.3 1.0	15 05 04	34 36 38 40	58.0 57.2 58.0 56.8 54.9 54.3	14 14 19		34 36 38 40	54.6 55·4	52.8 52.3 53.7 57.7	24 24 23 16	
42 44 46 48	64.2 65.3 63.7 64.9 69.0 69.8 67.1 68.1	07 06 14		42 44 46 48	60.8 6	1.1 5.4	02 03 -17.1 10	42 44 46 48 50	55.0 54.2 56.8 55.2 58.0 56.0 63.1 61.5	17	-16. 1	42 44 46 48	60.0 60.9 62.1	58.1 58.3 59.2	16. 15 13	-16
50 52 54 56	65.1 66.5 64.4 66.0 64.2 65.8	08 07 07		50 52 54 56	65.8 6 67.4 6 69.7 7	7.0 9.0 0.9	13 16 19 18	52	61.5 60.2 54.4 52.8 46.1 45.	33		50 52 54 56	59.8 56.2	60.9 57.9 54.1 53.7	11 16 22	
56 58 00 02	62.8 64.7 63.0 64.3 64.7 66.2 67.1 69.2	06 06 08	-18.8	50 58 3 00 02	69.0 7 70.2 7		18 20 –17.1 24	54 56 58 5 00 02	46.8 45.2 42.7 40.8 38.8 38. 48.3 47.	3 40 1 46 1 31	-16. I.	58 7 00 02	59.4 59.1 55.9	56.7 57.3 54.5	23 18 17 22	- 16
04 06 08	68.3 70.8 67.1 69.6 66.7 69.0	15 13 12		04 06 08*	73.7 7 74.2 7 56.9 6	75.4 76.8 53.3 52.4	25 27 30 28	04 06 08 10	56.7 55.6 61.3 60. 69.1 68.6 69.6 68.8	23 10		04 06 08 10	56.0 56.1	54.2 53.9 54.1 56.9	23 22 22 18	
10 12 14 16	66.3 68.9 63.0 65.0 57.6 59.8 56.1 58.9 57.1 59.8	22 58	-18.3	10 12 14 16	52.6 6 52.1 6 51.8 5	52.0 50.3 58.2	25 24 -16.9	12 14 16	60.9 59. 58.8 58.	23 II 0 I4 0 25	-16.2	12 14 16	59·3 60.3 58.6	57.0 57.7 57.3	18 17 18	-16
18 20 22	57.1 59.8 60.3 63.0 64.8 66.8 64.0 65.7	23 03	3	18 20 22 24	49.8 49.1	55.6 53.1 52.2 54.2	18 16 14 18	18 20 22 24	49.0 48. 46.2 45. 48.6a 52.0 50.	34		18 20 22 24	55.9 59.1	50.7 54.0 57.2 57.7	29 23 18 17	
24 26 28 30	71.0 72.4 68.9 71.0 64.7 66.3	10	) -18.0	26 28 30	52.7 52.7 51.5	55.0 54.8 52.9	21 20 18 –16.7	26 28 30	55.0 54. 53.3 52. 51.9 50.	7 20 6 23 8 26	-16.3	26 28 30	58.5 59.9 58.3	56.3 58.8 56.1	19 16 20	-16
32 34 36 38 40	65.8 67.2 65.9 67.3 67.3 68.7 66.9 67.8	I	r 3	32 34 36 38	49.I 48.0	52.1 50.8 49.6 50.1	17 14 12 13	32 34 36 38	45.0 40. 39.2 34. 31.1 26. 27.0 24.	0   23 49 3   24 01		32 34 36 38	58.9 63.8	54.0 57.0 61.0 64.0	23 19 12 07	
42	61.7 62.9 60.3 61.9 59.8 61.1	02	4 3 1 –17.9	40 42	48.2 47.2 45.4	49.5 48.5 46.9	12 11 09 -16.6	40 42	17.9 16. 12.0 9. 21.2 17.	0 20 6 30 7 16	-16.3	40 42	71.2 72.7 72.5	69.0 70.1 70.8	23 00 22 57 22 57	,  -I
44 46 48 50	59.9 61.8 60.6 62.1 61.2 62.8 61.1 62.4	02	3 4	44 46 48 50	44.7	46.1 45.8 44.9 45.7	08 07 06 07	44 46 48 50 52 54 56 58	26.8 21. 21.2 17. 34.8 29. 36.0 33.	6   24 16 5   23 56		44 46 48 50 52	57·9 50.2	59.8 56.7 48.1 55.6	23 15 20 33 22	3
50 52 54 56 58	59.9 61.1 58.8 60.1 59.9 60.8	0:	0	50 52 54 56 58	42.I 42.2	43.8 44.2 43.1	04 04 0216.4	54 56 58	36.7 33. 36.4 32. 36.0 29.	7 52 7 53	2	54 56 58 8 00	57.1 56.0 51.5 56.8 60.7	54.8	30 22	)

Observer-R. R. T.

Correction to local mean time is — 2m o7s. 90° torsion = 22.6. Torsion head at oh oom read 255° and at 9h 15m read 185°. Observer—R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Mono	lay, January	4, 1904	}			Magne	t scale	erect	Tueso	lay, January	5, 1904	•		Magnet	scale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Righ	East decli- nation	
h m 8 00 02	d d 41.8 44.6 39.7 43.7	22 45 42	-19.4	h m 10 00 02	d 38.6 37.2 38.9	d 39.8 39.3 40.1	22 43 42 44	-18.o	h m 12 00 02 04	d d 40.3 39.6 44.2 43.1 41.0 39.3	22 40 34	-16.4	h m 14 00 02 04	d d 19.8 18.21.2 19.022.3 20.0	5 12	-17.0
04 06 08 10 12 14 16	41.9 43.0 37.9 41.8 36.8 38.9 31.2 35.3 29.9 33.8 36.2 40.1 43.2 46.3	44 40 37 29 27 37 47	-19.2	04 06 08 10 12 14 16	45.1 44.3 42.9 42.6 42.0 41.8	46.1 45.3 44.9 45.3 44.3 45.4 46.8	54 52 51 52 50 51	-17.9	06 08 10 12 14 16	41.0 39.3 41.9 40.6 44.0 42.0 42.3 40.4 39.9 37.3 42.8 41.1 46.9 44.3 51.7 48.8	39 38 35 37 42 37 31	-16.8	06 08 10 12 14 16	21.2 20.1 17.9 17.2 21.8 20.18.6 17.19.4 18.20.7 19.	5 11 3 16 7 11 8 15 7 14 2 13	-17.0
18 20 22 24 26 28	42.2 44.6 37.9 41.7 41.7 44.9 39.2 42.8 38.7 42.2 31.0 33.8	47 46 40 46 42 41 28		18 20 22 24 26 28	43.2 43.6 43.7 45.1 46.7 47.2	45.5 46.8 48.0 49.8 50.3	53 52 53 56 22 59 23 00	-17.8	18 20 22 24 26 28	49.0 45.9 45.5 42.2 44.9 42.0 45.0 42.7 47.9 45.7	24 28 34 35 34 29	-17.0	18 20 22 24 26 28 30	18.0 15. 20.3 18. 20.9 18. 24.2 21. 25.1 21. 25.9 22. 28.7 25.	0 14 7 13 9 08 7 07 3 06	
30 32 34 36 38 40 42	35.I 46.4 44.9 46.5 45.6 47.4 41.I 42.2 36.7 38.8 40.5 42.2 41.I 43.7	34 50 51 43 37 43		30 32 34 36 38 40 42	44.7 47.1 49.8 47.3 43.8 41.3 35.3	52.2 50.2 45.3 43.3	22 55 22 58 23 03 23 00 22 54 50 40		30 32 34 36 38 40 42	49.3 47.6 47.9 46.8 47.2 46.1 45.4 <i>b</i> 48.0 47.0 46.3 45.9 48.2 47.9	27 28 29 31 28 30 27	-17.0	32 34 36 38 40 42	33.8 29. 36.1 33. 37.2 34. 37.7 34. 37.9 35. 38.2 36.	2 22 55 3 50 1 48 9 47 6 47 0 46	
44 46 48 50	42.5 42.8 49.2 49.2 46.1 46.2 52.8 52.8 44.3a 57.7 58.8	45 46 56 22 51 23 02 22 49 23 11	-18.9	44 46 48 50 52	32.8 35.1 39.7 38.3 42.8	34.6 35.9 40.7 39.3 44.2 34.7	36 40 47 45 52 36	-17.8	44 46 48 50 52	55.8 53.9 55.8 54.4 49.3 47.4 48.1 46.8 47.2 44.9 43.7 40.2	17 16 27 29 31 37	-17.2	44 46 48 50 52 54 56 58	38.1 36. 38.1 37. 39.5 38. 39.2 38. 39.7 38. 38.6 37.	7 46 2 46 8 43 8 43 8 43 9 45	-17.0
52 54 56 58 9 00 02 04 06	52.9 53.2 45.6 47.1 39.2 41.5 37.4 39.1 32.1 33.8 31.3 32.0	23 02 22 52 42 39 32 29 26	-18.7	54 56 58 11 00 02 04 06	30.8 38.8 39.7 34.8 38.0 37.3	39.8 40.8 36.6 40.1 39.8	33 47 48 41 46 45	-17.6	54 56 58 13 00 02 04 06 08	43.2 41.1 42.9 40.0 40.8 39.2 39.1 38.5 40.2b 37.9 36.6	37 38 40 42 40 45	-17.2	56 58 15 00 02 04 06 08	38.6 37. 39.0 38. 38.4 37. 38.0 37. 38.8 37. 40.3 39.	1 44 7 45 0 46 0 45 0 43	-17.0
08 10 12 14 16 18	29.1 29.9 32.1 32.8 33.1 33.7 36.8 38.3 39.0 41.0 39.8 41.9	26 31 32 38 43 44 56	-18.4	08 10 12 14 16 18	34.9 32.8 37.1 36.9 34.7 34.8	40.9 39.1 36.3 36.9	41 38 47 45 41 41 44		10 12 14 16 18 20	34.9 33.9 37.8 35.9 38.8 36.4 36.9 35.2 36.4 34.2 33.9 32.0 33.6 31.8	49 45 44 47 48 52 52	-17.2	10 12 14 16 18 20	40.0 38. 39.3 37. 38.9 37. 39.2 37. 39.9 38. 42.9 41. 44.8 42.	8 44 2 45 9 44 3 43 2 39	-17.0
20 22 24 26 28 30	46.2 50.0 42.4 45.8 36.9 40.1 40.8 45.2 35.2 39.8 40.3 45.1 36.8 40.8	50 49 41 48 40 48 42 50	-18.3	20 22 24 26 28 30 32	36.7 38.8 39.4 36.8 36.1 36.8	37.7 39.6 40.1 37.8 37.1 37.1	47 48 44 43 43 45		22 24 26 28 30 32	34.0 32.5 32.2 31.2 30.1 29.8 31.2 30.9 33.6 32.7 33.8 33.0	51 53 56 55 51 51	-17.2	22 24 26 28 30 32	42.9 40. 42.0 39. 42.7 40. 41.2 39. 42.2 40. 43.7 43.	2 40 8 41 8 39	
24 6 8 9 2 3 3 4 6 8 9 2 4 4 6 8 9 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	42.9 45.9 36.7 39.1 42.0 44.6 38.7 41.4 39.0 40.3	50 40 49 44 43 36 43		34 36 38 40	39.4 36.8 36.1 36.8 37.1 36.8 35.8 36.9 36.6 35.7 34.8	37.4 36.1 37.3 36.9 36.2 36.0	45 43 44 44	-17.4	34 36 38 40 42 44	32.9 32.2 32.1 31.2 32.8 31.9	52 54 53 54 57 22 59	-17.1	34 36 38 40 42 44	42.9 42 42.9 42 43.7 42 48.1 47 51.3 49 51.9 49	2 38 3 38 3 38 3 30 7 26	5
46 48 50 52 54	38.8 40.1 33.1 34.8 30.4 32.0 34.8 36.1 39.6 41.3	43 34 31 37 45 41		42 44 46 48 50 52 54 55 58	34.2 34.8 34.2 34.1 34.1 31.2	36.3 36.6 36.3 35.8 36.6	43 42 41 42		34 35 8 0 2 44 6 8 0 2 44 6 8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	28.2 27.3 27.0 26.4 22.9 22.3 22.1 21.7 23.0 22.1 21.3 20.7	23 01 02 08 09 08 11		34 36 38 40 42 44 46 48 50 52 54 56 58	52.5 49 51.8 48 52.9 48 53.2 46 49.0 43 40.8 44	.1 27 .6 26 .9 27 .9 33 .6 3	7 7 3 1
58	37.2 38.4 38.8a	43		58 12 00	35·3 32·3	33 · 3 37 · 8 34 · 8	45	1	58	21.2 20.3	11		16 oo	47.0 43 48.3 43	.0 3	5

Correction to local mean time is — 2m 32s. 90° torsion = 23.'6. Torsion head at 8h oom read 175° and at 12h 30m read 130°. Observer—W. J. P.

Correction to local mean time is — 2m 55s. 90° torsion = 20.'8. Torsion head at 11h 20m read 135° and at 16h 25m read 117°. Observer—R. R. T.

Wedr	iesday, Janua	ry 6, 19	04		Magne	t scale	erect	Wedr	iesday, Janua	ry 6, 19	04			Magne	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem C.
h m	d d 40.6 40.8	22 38	-23.0	h m	d d 45.3 46.3	。, 22 46	°	h m	d d 49.3 49.6	22 52	-20.6	h m 6 oo	d 16.1	d 24.8	。 , 22 54	-19.4
02 04 06 08	41.6 41.9 42.2 42.3 41.8 42.0 41.5 41.9	40 41 40 40		02 04 06 08	45.3 45.5 44.7 45.7 44.8 45.4 44.7 45.2	46 45 45 45		02 04 06 08	51.2 51.6 49.7 50.1 49.5 50.3 59.0 59.0	55 53 22 53 23 07		02 04 06 08	23.5 31.0 20.0 9.8	30.0 40.0 25.5 18.0	23 04 23 18 22 58 44 48	
10 12 14 16	4I.6 42.0 4I.2 4I.2 4I.0 4I.3 40.0 40.3	40 39 39 37	-22.5	10 12 14 16	44.4 44.6 42.2b 39.0 39.3 39.3 39.6	44 41 36 36	-21.2	10 12 14 16	61.0 61.3 60.3 60.9 64.0 65.2 64.5b	10 16 16	-20.5	10 12 14 16	13.0 16.2 17.8 11.6	20.0 23.3 25.6 18.2	53 56 46	-19.2
18 20 22 24	39.3 39.8 39.3 39.7 39.4 39.8	37 37 37 36		18 20 22 24	38.0 38.0 35.6 36.0 34.3 34.7 34.3 34.6	34 31 29 28		18 20 22 24	64.3 64.6 62.1 <i>b</i> 59.4 59.9 58.6 59.3	16 12 08 07		18 20 22 24	11.3 41.3 47.3 55.0	19.1 50.3 57.6 63.0	22 46 23 34 45 23 55	,
26 28 30 32	38.9 39.3 38.1 38.3 37.0 37.3 35.5 35.8 35.5 35.6	34 33 30 30	-22.3	26 28 30 32	35.6 36.0 36.2 36.6 36.6 36.8 37.8 38.4	31 32 32 34	-21.0	27.2 28 30 32	61.3 62.3 62.6 64.2 66.9 67.6 70.7 71.1	12 14 20 26	-20.4	26 29*2 30 32	34.8	75.0 45.6 54.3 71.6	24 10 22 48 22 56 23 35	-18.8
34 36 38 40	35.1 35.1 35.0 35.0 35.3 35.5 35.0 35.2	30 29 30 30 28	*	34 36 38 40	37.8 38.3 37.6 38.0 38.2 38.4 39.9 40.0	34 34 35 37		34 36 38 40	75.5 77.2 71.3 73.0 69.7 72.2 66.3 69.2	34 28 26 21		34 36 38 40	67.5 69.2 57.6 61.3	71.0 72.8 63.0 68.3	35 38 21 28	Ý'
42 44 46 48	33.9 34.1 33.6 33.9 33.6 34.1 34.9 35.5	28 27 27 30	-22. I	42 44 46 48	39.0 39.3 43.9 44.6 47.1 47.6 51.3 51.8	36 44 49 55 22 58	-21.0	42 44 46 48	61.6 64.1 67.8 69.0 62.6 64.0 60.3 61.9	13 22 14 10	-20.I	42 44 46 48	64.5 56.8 53.2 48.8	70.6 62.8 63.1 56.8	32 20 18 09	-18.6
50 52 54 56	36.9 37.4 38.1 38.5 38.2 38.6 38.4 38.7	33 35 35 35		50 52 54 56	53.3 53.7 55.5 56.1 55.4 56.0 55.3 55.7	22 58 23 02 02 02		50 52 54 56 58	59.7 59.7 56.6 58.3 54.0 54.5 53.0 54.9	08 23 05 22 59 59		50 52 54 56	58.8 60.0 62.2 59.6	64.5 69.3 69.5 62.0	23 28 30 22	,
58 1 00 02 04	38.4 38.7 38.4 38.8 38.6 38.8 39.1 39.3 39.0 39.0	35 35 35 36 36 36	-22.0	58 3 00 02 04	54.7 55.3 54.2 54.9 53.3 53.9 52.2 52.8	23 00 22 59 57 56	-21.0	5 00 02	45.9 47.7 51.9 52.8 59.2 61.8 48.0 51.3	59 48 22 57 23 09 22 52	-20.0	58 7 00 02 04	60.8 63.2 59.1 55.8	61.8 64.0 60.0 57.3	-23 26 20 15	-18.5
06 08 10 12	38.4 38.7 37.4 37.6 37.3 37.5 36.3 36.7	35 33 33 32		06 08 10 12	51.9 52.2 53.0 <i>a</i> 54.1 54.7 55.6 56.0	56 22 58 23 00 02		04 06 08 10 12	49.0 51.6 53.1 54.7 58.8 60.0 54.2 54.4	53 22 59 23 08 00		06 08 10 12	53.0 52.0 55.3 53.6	54.4 54.0 56.5 54.1	11 1) 14	
14.2 16 18 20	36.3 36.6 36.3 36.6 36.0 37.2	32 32 32 32 32	-22.0	14 16 18 20	55.0 55.0 54.5 54.5 53.6 53.6 51.8 52.0	01 23 00 22 59 56	-21.2	14 16 18 20	55.7 57.0 61.0 62.2 62.6 63.9 67.3 67.3	03 11 14 20	-19.9	14 16 18 20	56.3 52.3 66.5 62.9	57.7 61.0 71.3 67.0	16 15 35 28	-18.5
22 24 26 28	35.6 35.8 35.6 35.8 35.3 35.5 36.0 36.1	31 31 30 31		22 24 26 28	50.0 50.0 48.5 <i>b</i> 47.8 47.8 47.8 47.8	53 51 50 50		22 24 26 28	72.0 72.7 69.0 69.0	28 23 07 23 06		22 24 26 28	59.7 52.6 50.2	63.4 57.6 54.6	23 13 09 05	
30 32 34 36 38	35.4 35.7 35.5 35.9 36.7 37.3 37.6 38.0	30 31 33 34	-21.7	30 32 34 36	48.0 48.3 46.3 46.7 49.8 50.1 51.5 52.6	50 48 53 22 56	-20.9	30 32 34 36* 38	54.0 <i>b</i> 57.0 <i>a</i> 48.0 50.6	22 59 23 04 22 52 23 42	-20.0	30 32 34 36 38	47.7 47.8 44.7 39.7 38.3	52.0 51.5 48.0 42.5 41.5	23 04 22 59 51 49	18.4
40 42	37.7 38.1 38.6 39.0 41.1 41.3 43.8 44.6	34 35 39 44	-21.5	38 40 42	55.2 55.8 62.0a 67.0 68.0 63.1 64.3	23 02 12 20 14	-20.7	40 42	49.2 51.8 46.6 46.6 50.5 51.8 52.0 55.6 57.0 61.3	36 43 47 55	-19.6	40	34.0 36.4 32.9 45.0	35.6 38.2 35.3 45.0	45 45 40 58	-18.2
44 46 48 50 52 54 56 58	45.4 47.0 46.0 48.1 47.4 48.4 48.4 49.3	47 48 50 51	Ü	44 46 48 50 52	60.5 60.7 58.3 59.3 60.1 60.8 57.6 58.5	10 07 09 06		44 46 48 50 52	51.4 53.6 56.5 57.0 48.8 56.0 43.0 55.6	45 51 45 40	-9.0	42 44 46 48 50 52 54 56 58	27.8 24.9 26.0 26.5	30.5 28.0 28.3 28.8	32 28 29	10.2
54 56 58	48.0 49.0 47.6 48.6 47.8 48.8	51 50 50		54 56 58	54.5 55.5 53.5 54.7 51.3 52.3	23 OI 22 59 56		54 56 58	24.6 31.8 19.2 25.4 13.0 19.3	23 07 22 57 48		54 56 58	20.5 25.3 26.8 30.0	28.6 29.9 32.0	30 29 31 35	

Observer-W. J. P.

Observers-W. J. P. and J. V., who alternated from 7h 48m to 7h 58m.

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Chr'r time	Sca readii	ngs	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale reading Left Ri	gs	East decli- nation	Temp. C.	Chr'r time	Sc read Left	•	East decli- nation	Tem <sub>1</sub> C.
ı m	d	đ	· ,	•	h m	đ	d	0 /	0	h m	đ	d	0 ,	0	h m	d	d	0 ,	۰
00 02	29.0	32.3	22 34	-17.6	ro 00 02	16.4	21.1 27.0	22 I6 23	-16.6	12 00 02	45.8 5 50.0 5	1.0 6.9	22 27	-15.6	14 00 02	51.0	53.0 53.0	22 33 32	-14.9
04		39.0 35.2	44 39		04 06	20.6	23.5	21		04	50.0 5	8.5	35 37		04	49.3 48.2	52.0	30	
06 08	33.I 31.2	36.7 35.0	41 38		06	9.0	13.0 32.6	22 04 2I 55		об 08		0.2 5.1	40 47		o6 o8	48.8 48.7	49.9 50.2	29 20	
10	32.8	35.0	40		10	30.0	36.8	22 04		10	59.0 6	8.8	52		10	48.0	50. I	29 28	
12 14	3I.2 27.1	33.0 28.9	37 30	-17.4	12 14	35·5 34·4	42.I 40.0	12 10	-16.6	I2 I4	60.9 7	6.8	56 51	-15.5	12 14	46.8 46.4	50.6 50.9	28 28	-14.8
16 18	24.2	26.3	30 26 28		16 18	37.4	39.3	12 22		14 16 18	59.4 6	6.5	50		14 16 18	48.0 48.7	50.2 52.6	29 31	
20	26.3 27.4	27.5 27.4	29		20	42.0 41.5	47.7 47.2	21		20	62.0 6	7.9	49 53		20	49.8	54.2	33	
22 24	34.0 36.9	34.7 39.0	40 46		22	35.0	39.8 43.2	I)		22		7.0 6.0	54 51		22	51.0 55.0	55.1 58.0	35 <b>40</b>	
26	34.0	35.2	41		24 26	32.3	39.7	08		24 26	60.8 6	2.3	48		24 26	56.o	58.5	41	
28 30	28.6	37.8 25.2	39 24	-17.2	28 30	34.8	38.9 46.0	09 20	-16.6	28 30		2.0	48 46	-15.3	28 30	53.0 51.6	54·4 55.6	36 36 38 38 38 36 38	-14.6
32	32.2	35.0	39	'	32	30.5	38.0 48.0	05 20		32	58.2 6	5.0 4.0	48 46		32	52.8	57.5	38	
34 36 38	33.6	36.1 36.6	39 41		34 36 38	39·5 43·0	47.0	22		34 36	56.3 6	2.8	45		34 36 38	53.0 52.6	57.1 57.8	38	
38 40	35·3 35·2	37·4 35.8	43 42		38 40	42.0 43.9	48.9 52.7	23 27		38 40		3.0	45 45		38 40	52.2 54.0	56.0 56.2	36 38	
42	22.4	26.6	25		42	38.0	46.0	17		42	56.6 6	1.5	44		42	52.2	55.5	36	
44 46 48		28.9 40:3	31 48	-17.2	44 46 48	47·4 43·7	55.0 53.5	32 28	-16.7	44 46 48		0.0	44	-15.2	44 46 48 50 52	51.8 52.5	54.I 55.0	35 36 38 36	-14.5
48	34.0	35.4	41		48	41.7	51.0	24		48	59.0 5	9.0	- 44		48	53.3	57.0	38	
50 52	29.3 27.0	32.8 30.1	35 31 28		50 52	42.0 45.8	51.5 57.9	25 33		50 52		9.6	45		50 52	52.0 51.0	55.6 55.9	30 35	
54 56		27.8	28 22		54 56 58	40.3	43.0	17 28		54 56 58		7.0 9.0	39 42		54 56	51.9 51.8	55.8	35 36 36	
58		23.7 28.2	27 26			44·3 46.0	53·7 56.6	32		58	58.0 5	9.9	44		58.8	51.6	55·9 55·4	35	
00 02		27.0 29.2	26 31	-17.0	II 00 02	44.2 44.1	53.2 53.9	28 28	-16.7	13 00 02		9.5	45 47	-15.2	15 00 02	51.0 51.1	55.0 55.3	35 35	-14.4
04	26.6	28.2	29		04	46.2	56.2	32		04	59.3 6	1.7	46		04	50.8	54.0	34	
06 08		24.3 26.5	22 26		o6 o8	41.6 37.2	54.2 46.1	27 17		06		51.8 53.5	47 50		o6 o8	50.1 Lo	54.6 st	34	
IO	22.0	24.8	23		10	31.0	38.2	17 06		10	62.0 6	64.5	51		10	Lo	st		
I2 I4		24.0 32.4	21 34	-16.7	I2 I4	37.2 50.0	42.7 55.2	34		12 14	66.0 6	5.0 8.8	51 57	-15.1	13 14	49.0 44.2	54·5 49.8	33 25 18	-14.2
16	26.2	32.0	32		16 18	54.2 51.4	48.5 55.5	32 35	-16.5	16 18		б8.1 бб.о	56 53		16 18	40.0 44.0	44.6 48.0	18 24	
18 20	27.9 27.6	31.2 32.5 28.8	33 34		20	54.0	50.5	40		20	61.3 6	54.5	50		20	46.6	49.9	27	
22 24		28.8 29.9	29 27		22 24	53.I 44.5	58.0 49.8	39 25		22 24		3.0 51.8	48 46		22 24	43.6 43.2	47.9 47.0	23 22	
26	21.6	31.5	28		26	42.9 41.5	47.9	23		26 28	57.9 6	50.7	44		26	45.0	48.8	25 28	
28 30	24.4 30.3	33.2 37.9	32 40	-16.6	28 30	41.5	44.6 49.2	19 26	-15.8	30	54.1 5	9.0 8.2	42 40	-15.0	28 30	45.0 46.9 47.6	51.0 52.1	28 30	-14.0
30 32 34 36 38	30.4	39.8	42		32	50.0	54.0	33		32	59.0 5	9.0 8.0	44		32	49.0 50.4	52.9	31	'
34 36	29. I 27.0	39.0 36.0	40 36		34 36 38	55.4 46.8	57.8 48.1	40 26		36	47.7 5	51.3	41 29		34 36 38	49.0	52.9	33 31	
38	27.I	34.0	34		38 40	43.9 41.0	46.5 42.0	22 17		34 36 38 40	46.5 4	19.9 19.0	27 26		38 40	48.0	51.0	29 29	
40 42	23.8	34.3 32.0	34 30		42	48.0	50.0	17 28		42	46.5 4	18.o	25		42	47.4 48.8	52.3	31	
44	23.2	31,8	30 31	-16.8	44	49.1 52.7	51.5 55.9	30 37	-15.6	42 44 46 48	48.2 4	11.9 19.4	16 28	-15.0	42 44 46 48	51.0 49.3	52.7 53.0	33 32	-14.0
48	24.5	31.9 31.4	30		44 46 48	50.0	54.4	33	3.5	48	50.0 5	52.0	32		48	50.6	53.2	33	
50		30.4 31.5	29 31		50 52	47.4 47.0	53.0 51.6	30 29		50 52	51.0 5 51.4 5		33 34		50 52	50.5 52.5	52.4 52.5	32 34	
40 44 46 48 50 54 55 55 55 55	19.4	26.9	23		54	47.7	51.2	29		52 54 56 58	51.0 5	53.5	33		50 52 54 56	51.1	53.I	33	ĺ
56 58	20.4	25.7	23 21		54 56 58	44.0 45.6	49.1 49.3	24 26		58	51.0 5 51.1 5	53.0	33 33		50	51.4 49.9		34 32	

Observer-J. V.

Observers—J. V. and R. R. T., who alternated from 15h 55m to 16h 04m.

Wedi	nesday, Janua	arv 6, 19	04			Magne	et scale	erect	Wedi	iesday,	Janua	гу б, 19	04		,	Magne	t scale	erect
Chr'r time	Scale readings Left Right	East decli- nation		Chr'r time	read	ale lings Right	East decli- nation	Temp C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	
ı m	d d	0 ,	0	h m	d	d	0 /	0	h m	d	đ	• ,	0	h m	đ	d	. ,	0
02	50.5 53.2 50.8 54.9	34	-13.8	18 00	58.3 59.8	59.4 61.3	22 44 47 48	-12.0	20 00 02	49.8 49.2	52.1 52.8	22 32 32	-11.0	22 00 02	37·7 41.1	49.1 48.3	22 20 22	~IO.2
04 06	50.9 54.1 51.2 55.3	35		04 06	60.3	62.3 62.6	48		04 06	50.1 50.1	53.I 53.3	33 33		04	45·4 60.0	52.2 70.8	28 22 54	
08	50.0 53.2 51.2 53.9	34		10	60.3 60.1	62.3	48 47		08 10	51.1	54.3 54.8	34 35		08* 10	18.1 26.7	44·3 57·2	23 59 24 16	
12 14	52.1 54.8 50.9 51.9	32	-12.8	12 14	60.0 60.1	61.9	47 47	-11.9	12 14	50.8 50.0	53·4 52·5	34 32	-11.0	12* 14*	33.I 30.5	47.2 38.0	23 22 22 31	
16 18	47.6 48.3 45.2 46.1	23		16	60.5 60.3	61.1	47 47	:	16	49.0 48.9	51.7	30		16	25.2	29.9 34.9	20 28	-10.2
20 22	45.9 46.8 45.9 46.1	24		20 22	59.9 59.1	60.5	46 45		20 22	46.2 44.1	48.8	26 23		20 22	24.6 37.8	29.9 39.1	20 38	
24 26 28	44.7 45.8 44.8 45.3	22		24 26 28	59.1 58.7	59.8 60.0	45 44		24 26 28	44.0	46.I 47.I	22 24 26		24 26 28	36.7 47.8	38.8 55.4	38 36 58 58	
30 32	44.9 45.4 45.0 45.3 46.7 47.6	22		30 32	59.0 59.2 59.6	60.3 59.8	45 45 45	-11.8	30	46.0 46.1 46.4	48.1 48.7 48.8	26 26	-11.0	30	49.2 46.1	53.8 52.4 44.2	55	-10.0
34 36 38	45.6 46.8 47.3 48.9	24		34 36 38	59.1 58.7	59.8 59.6	45 45 44		32 34 36 38	45.1	47.I	24		32 34 36	39.1 31.0 34.8	36.7 39.6	43 30 36	
38 40	48.7 50.8 47.9 50.0	29		38 40	58.7 58.1	59.7 59.2	44 43		38 40	45.3 45.2 45.0	47.9 48.1	25 25 25		38 40	26.3 39.8	33.9 48.7	25 47	
42	47.9 49.2 45.9 46.8	28		42	57·9 57·3	59.2	43 43	-11.6	42	44.2 44.7	47·9 47·7 47·7	24 24 24	-10.9	42	39.3 41.1	45.9 48.9	44 48 48	-10.0
44 46 48 50 52	50.2 52.4 52.6 55.3	32		44 46 48	57.2 56.1	59.3 58.8 57.4	43 40	0,	44 46 48 50	45.0 44.7	48.3 47.9	25 24	-10.9	44 46 48	39·4 39·7	44.3 44.9	43	
50 52	55.1 57.9 55.3 58.1	40		50 52	55·3 54·9	56.6 55.7		. 177	50 52	44.5 47.6	47.0 49.8	24 28		50 52	36.1 35.9	41.7	44 38 37	
54 56 58	54.7 57.7 53.4 56.1	40		54 56 58	55.0 55.1	55.9 55.8	39 38 38 38 38		54 56 58	48.9 49.8	51.1	30 32		54 56	34.9	44.2	39	
58 7 00	52.4 55.3 54.1 55.1	36	-12.3	58 19 00	54.8 54.0	55·4 54.8	38 37	-11.4	58 21 00	49.9 49.0	52.I 51.0	32 30	-10.8	58 23 00	41.6	45.7 48.8 38.1	44 48 3 1 33	-IO.
02 04	56.1 56.9 54.8 55.9	40		02 04	53.8	54.8 55.0	37 37		02 04	47.3 47.0	48.6 48.2	27 26		02	33.2 38.6 35.4	45.8 40.3	44 37	
об 08	54.3 55.2 53.9 55.1	37		06 08	53.8 54.0	54.8 55.3	37 37		o6 o8	45.9 44.6	47.8 45.8	25 23		04 06 08	27.6 39.7	33·3 47·I	25	
10 12	52.9 54.1 51.6 53.1	35 34		10 12	53.1 52.6	54.2 53.7	36 35		I0 I2	45·3 46.3	47.1 48.7	24 26		10 12	42.8	46.9 45.0	45 48 46	
14 16	50.1 52.8 48.7 50.3	29		14 16	52.6 52.6	53.2 53.8	35 35	-11.2	14 16	44.7 40.7	46.4 43.1	23 18	-10.7	14 16	4I.9 30.I	47.8 37.4	48 30	-10.
18 20	50.1 51.9 50.8 52.5	32		18 20	52.3 52.9	53·7 53·9	35 36		18 20	40.2 41.2	42. I 43.8	18		18 20	21.3	26. I 23.2	14	
22 24	51.0 52.4 52.0 53.8	35		22 24	53.6 52.8	54·5 53·9	36 35		22 24	42.3 42.3		20 19		22 24	18.3 22.1	22.7 26.4	10 15	
20 28	52.8 54.7 53.9 55.7 54.3 56.2	36 38 38		26 28	52.2 52.1	53.2 53.1	34 34		26 28	41.2	43.0	18		26 28	25.2 I4.3	29.3 18.1	20 22 03	
30 32	1 55.3 57.2	40		30 32	51.I 50.5	52.0 52.8	33	-11.2	30 32	41.0 42.8	44.9	18 20	-10.5	30 32	IO.3	14.4 18.1	2I 57 22 03	-10.
32 34 36 38 40 42	54.0 55.8	39 38 36 36 38		34 36 38	51.0	53.9 54.6	34 35		34 36 38	44.0	46.9	23 24		34 36 38	14.3 24.3	18.1 26.1	03 17	
40	53.I 54.7 53.7 54.2	36		40	51.2 51.1	53.9 53.9			40	45.2 48.1	47.6 50.4	25 29		40	2I.2 22.9	24.0 24.9	13 15 18	
44	54.4 55.3 54.1 54.8	37	-12.0	42 44 46	51.2	52. I	34 32	-II.I	42 44	48.8 44.1	50.3 46.1 45.2	30 23	-10.5	42 44	25.0 26.7	29.6	22	-IO.
48 50	54.3 55.1 52.8 55.8 54.8 56.9	37		44 46 48	50.7	52.8 52.8	33 33		44 46 48	50	.0a	30		44 46 48	30.8		27 28	
52 51	59.1 60.8	46		52 54	50.6	53.I 52.3	34 32		52	40.2	46.8 40.3 .1 <i>b</i>	24 15		50 52	36.2 38.8	37.2 39.7	35 39	
44 46 48 50 52 54 56 58	57.4 59.1 57.5 58.5 58.6 59.9	43 43 44		50 52 54 56 58	49.2 48.8 49.2	51.3 51.1 51.9	30 30 31		50 52 54 56 58	35.2 35.6	35·5 38·3	10 07 10		54 56 58	34.0 34.1	35.6 35.8 28.9	32 32 21	
	33.3	1		30	79.2	J. 19	31			33.5	J~ . J	10		24 00	27.2 35.2	36.2	33	

Observer-R. R. T.

Correction to local mean time is — 15s. Torsion head at oh oom read 117° and at 24h oom read the same. Observer—R. R. T.

sday, Januar	7, 1904	<b>.</b>		Ma	gnet s	cale inv	erted	Frida	ıy, Jan	uary 8,	1904				Magne	t scale	erect
Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	lings	East decli- nation	Temp. C.	Chr'r time	read	dings	East decli- nation	Temp. C.	Chr'r time	read	ings	East decli- nation	
d d	0 ,		h m	đ	ď	0 ,	0	h m	d d	d	0 /	0 18 4	h m	d	d .8 0	0 1	-15.
46.6 44.9	56	-10.0	02	50.0	58. <i>7</i>	36	-15.7	02	51.2	55.8	44	-10.4	02	48.0	49.8		_13.4
49.3 47.2	52		06	58.2	58.0	37		Об	49.8	54.0	42		06	49.9	51.3	40	
51.1 48.9	49		10	57.7	57.3	38		10	48.8	52.7	40		10	49.2	51.2	39	
52.0 50.5 52.8 50.8	47 46	-16.3	14	56.9	56.1	39	-15.8		47.7	50.8	38	-17.9	14	49.6	51.8	40	-15.
54.8 52.0	44		18	56.5	55.I	40		18	47.7	4Q.Q	37		18	49.5	50.7	39	
54.6 52.1 54.9 52.3	44 44		22	56.3	54.9 54.8	4I 4I		22	45.7	48.8	30 34		22	49.2	50.4	39 39	
55.0 52.7 55.8 54.2	42			56.6	54·3 54·3	41			48.0	50.0	37		24 26	49.3	50.0	38 38	
56.8 54.2	41	-16.3	30	56.8	54.2 54.2	4I 4I	-15.8	30	50.1	52.4	41	-17.4	30	50.8	51.6	41	-15.
56.2 54.0 55.5 53.2			32 34	56.8	53.7 53.6	4I 4I		32 34	50.2	54. I	42 43		32 34	48. I	40.0	37	
55.8 53.2 55.8 54.2	42 42		36 38	56.8	54.0 54.4	4I 40		36 38	51.6	54.7	44		38	48.9	51.0	39	
56.0 53.9 56.3 54.1	42		40	56.7	54.9 55.1	40 40		42	51.2 51.0	53.I	43 42		42	48.2	50.7 50.8	39 38	
56.7 54.3 56.8 55.0	41	-16.3	44 46	56.4 55.8	54.8	40 41	-15.7	44 46			42 43	-I7.I	44 46	48.I 47.7	50.0 50.2	37	-15.
57.2 55.6	39		48	55.7	55.I	41		48 50			41		48 50	47.8	51.0 51.4	38 39	
57.1 55.1	40		52	55.2	54.6	42		52	47.9 48.1	49·3 49·9	37		52	48.5	51.3	39	
56.9 55.2	40		56	55.3	54.2	42		56 58	4 -	49.6	37		56 58	49.4	51.3	39	
57.4 56.7	38	–16. I	19 00	55.3	54.2	42	-15.8	21 00	50.1	52.0	40	-16.7	23 00	49.3	51.3	39	-15.
56.6 54.9	40			56.8	55.2	40		04	52.0	54.9	44		04	48. I	50.3	38	
57.1 55.9	39		08	56.8	55.2	40		o8	52.2	55.I	45		08	48.1	50.2	38	
57.9 56.0	39	76.0	12	55.1	54.9	42	TC 7	12	50.7	53.2	42	T6 2	12	50.1	52.9	41	_T4
57.0 53.I	42	-10.6	16		54.4	42	-15.7	16	50.9	52.2	41	-10.3	16	49.3	52.8	40	-I4.
57.9 55.9	39 39		20	55.8	54.8	41		20	49.2	50. I			20	50.2	53.I	42	
57.9 55.9	39		24	56.0	55.0	41		24	49.8	50.9	39		24	47.7	50.2	37	
57.I 55.0	39 40		28	50.0 55.9	55.0 54.9	41		28	49.9	50. <i>7</i>	39	76.0		50.9	52.9	42	
56.9 55.7 57.6 55.8	39	-15.8	32	56.2 56.9	55.2	40	-15.6	32	50.8	51.7	40 41	-10.0	32	51.0	52.6	42	-14.
57.1 55.8	39 40		34 36	56.8	55.0 54.2	40 42		34 36	48.4	50.2	38		34 36	52.7	54.3	44	
50.I 55.8	38 40		38 40	55.8 56.2	54. I 54.7	42 41			47.2	49.2	36		40	51.9	54.2	44	
56.9 55.8	40	-15.7	42	56.3 55.9	54.2	4I 42	-15.5	42 44	45·3 45·3	47.7 47.8	34	-15.9	42 44	53.0	53.8 55.3	45 45	-14.
57.0 54.8	40		46 48	55.7	52.3	43		46   48	46.5	46.7 48.0	32 34		48	52.9 52.0	54·5 53.0	45 43	
57.3 55.1	40		50	55.6	52.7	43		50 52	47.0	48.n	35		50 52	54.6	58.5 55.9	49	
58.2 56.2	38 38		54 56	55.I	54. I	42		54 56	46.8	47.6 48.4	34		54 56	55.0	56.2	I EO	
58.7 57.2 59.2 58.1	36		58 20 00	55.5	54.1 53.8	42 42 42		58	48.1	48.8	36		58 24 00	53·3 50.8	55.5	46	
	Scale readings Left 84.9 9 9 4 44.2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Scale readings Left Right  d	readings Left Right  d d 46.0 43.9 46.6 44.9 47.9 45.2 50.3 48.7 50.3 48.7 50.51.1 48.9 52.0 50.5 52.8 50.8 54.8 52.0 54.8 52.0 55.8 54.2 55.8 55.2 55.8 54.2 55.8 55.2 55.8 54.2 55.9 55.0 57.1 55.1 56.1 54.6 56.3 55.0 57.2 55.1 56.6 54.9 57.1 55.5 57.4 56.7 57.6 55.8 57.9 55.9 57.9 55.9 58.0 55.7 57.0 55.7 57.0 55.8 56.7 55.8 56.9 55.8 57.9 55.9 57.1 55.6 57.9 55.9 57.1 55.6 57.9 55.9 57.1 55.6 57.9 55.9 57.0 55.8 56.7 55.8 56.9 55.7 57.0 55.8 56.9 55.8 57.3 55.1 40 -15.7 57.3 55.1 40 -15.7	Scale readings         East declination         Temp. C.         Chr'r time           d         d	Scale readings   Hast declination   Temp. C.   Chr'r time   Left	Scale readings   Left Right	Scale readings   Left Right	C	Chr'r chime   Chr'r chime	Scale readings   Cast   declination   C.   time   C.   time   Left   Right   C.   time   Left   Right   C.   time   Left   Right   C.   time   Left   Right   C.   time   Left   Right   C.   time   Left   Right   C.   time   Left   Right   C.   time   Left   Right   C.   time   Left   Le	Scale readings   Left Right   Chr'r   Chr'r   readings   Left Right	Scale readings   Carr	Scale readings   Carr   Temp   antion   Carr   Temp   Carr   Temp   Carr   Temp   Carr   Temp   Carr   Temp   Carr   Ca	Scale readings   East declination   C.   Chr'r   Chr'r   C.   Chr'r   Chr'r   Chr'r   C.   Chr'r	Scale   Feathings   Chr   Right   Chr   Chr   Chr   readings   declination   Chr   Right   Chr   Chr   readings   declination   Chr   Right   Chr   Chr   readings   declination   Chr   Right   Chr   Chr   Right   Chr   Chr   Right   Chr   Chr   Right   Chr   Chr   Right   Chr   C	Scale   East readings   C.   Chr'r   Chr'r   C.   Chr'r   Chr'r   C.   Chr'r	Scale readings   Rast readings   Chirr   Freadings   Chirr   Fre

Correction to local mean time is — 46s.

The torsion head at 15h 25m read 102° and at 20h 25m read the same.

Observer —I V

Correction to local mean time is — 38s. 90° torsion = 17.'5. Torsion head at 20h 25m, January 7th, read 102°, and 24h 20m read 98°.

			1 1	1			l			I			1	1	1	1	1
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readin	ngs	East decli- nation		Chr'r time	Scale readings Left Right	East decli- nation	
h m 0 00* 02 04	d d 37.5 37.0 Lost 35.5 33.0	22 50 55	<b>-20.0</b>	h m 2 00 02 04	d 42.0 43.2 45.5	<b>d</b> 39.0 40.9 43.1	22 45 43 39	-19.5	h m 4 00 02 04	41.0	d 50.2 47.6 43.1	03 25 00	-19.6	h m 6 oo 02 04	d d 22.0b 10.8 11.3 28.6a	23 33 16 43	-19.0
06 08 10 12 14 16 18 20 22	32.0 30.8 35.0 34.0 39.7 37.9 44.2 44.0 45.3 44.8 45.0 43.6 42.7 41.3 41.9 40.0 44.4 42.8 46.0 45.6	59 54 48 39 38 39 43 44 40	-18.4	06 08 10 12 14 16 18* 20	43.0 40.4 35.0 29.0 Over 30.8 30.5 21.3 15.0	40.1 38.7 32.8 29.0	44 47 22 56 23 03 02 45 23 59 24 12 19	-19.5	06 08 10 12 14 16 18 20 22 24*	33.0 24.8 22.6 27.9 23.8 25.2 213.3	36.0 27.0 13.9 26.8 28.7 35.6 33.2 28.0 18.0 46.3	24 48 34 14 35 38 49 44 35 18	-18.8	06 08 10 12 14 16 18 20	36.5 37.0 46.0 50.0 40.3 42.0 38.0 41.6 39.3 42.3 42.8 44.0 44.1 45.3 50.8 53.0 41.8 45.3	43 23 56 24 14 03 01 02 06 08 20 20 24 07	-19.0
26 28 30 32 34 36 38	45.5 44.4 48.8 47.0 49.9 48.7 46.5 46.5 46.0 45.2 44.7 43.7 41.4 40.0	37 38 34 31 36 37 39	-18.o	24 26 28 30.5 32* 34 36 38	20.5 31.4 30.0 26.2 19.0 19.0 31.0	14.0 25.6 28.5 21.4 19.0 18.9 28.8	24 06 23 48 23 47 24 44 52 52 52 35	<b>-19.0</b>	26.3 28.3 30 32 34 36 38	42.5 4 47.6 5 39.7 4 39.5 4 42.3 4 52.0 6	49.3 55.8 47.5 47.0 49.8 60.6	10 20 07 06 11 27 32	-18.6	24 26 28 30 32 34 36 38	36.0 40.5 33.8 37.0 36.0 38.5 26.8 31.0 21.0 25.8 29.0 32.5 22.3 26.0	23 58 54 57 44 35 46 36	-19.3
40 42 44 46 48 50 52	39.8 37.0 40.5 39.5 41.9 41.0 46.4 45.7 44.0 43.7 37.9 37.6 38.0 37.6	45 48 46 44 36 40 50	-18.4	40 42 44 46 48 50 52	39.5 41.1 53.8 37.8 53.0 35.8 57.0	36.9 38.0 49.8 36.8 51.0 33.0 50.0	22 20 00 23 00 24 28 23 58	-18.9	40 42 44 46 48 50 52	50.4 5 56.8 5 49.3 5 45.7 4 36.0 3 41.4 4	59.3 57.2 50.1 46.7 37.3 43.0	24 28 16 24 11 23 56 24 05 11	-19.0	40 42 44 46 48 50 52	14.5 18.2 16.7 20.1 17.6 20.2 24.3 26.2 23.3 25.0 21.0 22.8 26.9 29.1	24 27 28 38 36 33 42	-19.5
54 56 58 1 00 02 04	45.2 44.6 49.8 48.9 49.0 47.7 49.3 48.7 51.3 50.4 49.8 48.0 50.3 50.3	49 38 31 33 32 29 32	-18.9	54 56 58* 3 00 02.5 04 06	6.0 48.5 41.2 47.0 44.0 46.2 36.9	2.0 43.0 36.0 42.0 38.9 39.7 33.8	25 15 24 10 23 24 15 20 18 30	-18.9	54 56.8 58 5 00 02 04 06	41.2 4 38.8 4 37.4 4 32.3 3 35.4 3 40.3 4	45.0 42.8 40.8 36.3 37.8 42.1	06 02 24 00 23 52 23 56 24 03 23 58	-19.1	54.5 56 58 7 00 02 04 06	27.7 30.5 28.8 32.7 35.7 37.5 30.6 32.5 30.4 32.4 29.0 31.6	44 46 56 48 48 46	-19.
08 10 12 14 16 18	51.5 51.0 52.0 51.6 54.7 53.3 53.2 52.2 51.5 50.3 49.8 48.6 49.9 48.6	30 28 27 24 26 29 31 31	-19.1	08 10 12 14* 16 18	20.5 13.8 14.0 35.1 30.9 19.9 29.2	18.9 11.2 9.8 24.0 19.8 9.0 14.0	23 54 24 05 24 06 23 39 24 36 53 42	-19.0	08 10 12 14 16 18	36.0 3 36.6 4 49.7 5 59.8 6 70.5 7 68.3 7	39.3 39.6 40.5 54.3 53.6 72.5 70.5	23 58 23 59 24 20 35 51 47 46	-19.2	08 10 12 14 16 18	27.0 28.7 21.0 22.0 18.2 19.7 18.0 19.9 17.0 18.5 22.0 23.0 24.3 26.3 23.6 24.6	42 32 28 28 26 34 38 36	- <b>19</b> .
22 24 26 28 30 32 34	50.5 49.5 50.3 49.2 51.3 50.0 50.7 49.3 50.4 49.2 53.2 52.2 53.4 53.0	30 31 29 30 30 26 25	-19.2	22 24 26 28 30 32 34	42.0 37.2 29.7 19.3 26.2 32.0 26.9	30.3 30.0 20.0 12.6 19.5 29.0 22.2	28 37	-19.1	22 24 26 28 30 32 34	45.00 38.1 3 45.8 4 56.1 5 58.50 46.00	39.1 47.8 56.6 b	23 24 09 23 59 24 12 27 30 11	-19.1	22 24 26 28 30 32 34	23.0 25.2 19.0 20.9 13.3 14.3 21.5 23.0 26.2 27.7 32.5 33.1	36 30 20 33 41 50 49	-19.4
34 36 38 40 44 45 55 55 55 55 58	54.8 53.8 54.0 53.6 51.8 51.8 49.0 46.8 45.2 43.0 43.8 40.0 43.1 39.9 44.2 40.8	23 24 27 34 39 43 44 42	-19.4	36 38 40 42 44 46 48 50	37.4 40.1 41.0 34.6 38.9 38.0 32.0 30.8	33.5 35.5 36.3 29.5 34.0 32.5 25.4 22.3	20 16 15 25 18 20 31 23 34	-19.2	36 38 40 42 44 46 48 50	42.3 4 42.0 4 41.8 4 30.00 24.50 21.0 2 32.30 35.6 3	12.3 b b b 21.0 a	05 04 24 04 23 45 37 31 49 55	-19. <b>0</b>	36 38.2 40 42 44 46 48 50	32.3 32.7 27.5b 21.0 21.6 17.8 19.6 15.6 16.5 19.6 22.3 20.3 21.5 14.6 17.1 10.5 11.6	42 32 28 24 31 31 23 16	-19.4
52 54 56 58	44.2 41.3 41.8 39.0 41.5 39.0 42.4 39.8	42 45 46 44		52 54 56* 58	13.0 18.3 67.5 60.9	6.0 11.0 64.0 59.2	25 0I 24 53 24 59 25 08		52 54 56 58	26.3 2 25.6 2 22.3	27.5 26.2	39 33 34		44 46 48 50 52 54 56 58 8 00	10.2 12.3 10.5 11.8 9.4 10.6 7.2 8.2 7.5 8.0	16 16 14	-19.0

Observers—J. V. and W. J. P., who alternated from 3h 50m to 4h 04m.

Correction to local mean time is — 22s. 90° torsion = 17.'5. Torsion head at oh oom read 93° and at 9h 30m read 96°. Observer—W. J. P.

TATOLI	day, January	11, 1904	ļ		M	agnet s	cale inv	erted	Tues	day, January	12, 1904			Ma	gnet scale	erect
Chr'r time	Scale readings Left Right	East decli- nation		Chr'r time	rea	cale dings Right	East decli- nation	Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings	nation	
h m	d d	۰,		h m	d	d	. ,	•	h m	d d	. ,	0	h m	d d		
00* 02 04 06 08	38.0 35.8 40.8 38.7 37.8 36.8 37.8 36.4 38.9 37.2	33		10 00 02 04 06 08	52.9 52.0 50.7 49.9 51.8	50.4 50.3 48.9 48.2 49.2	22 38 39 41 42 40	20.6	02 04 06 08	59.9 60.3 57.8 58.9 56.9 58.8 57.0 57.7 54.1 55.2	22 40 37 36 35	-29.0	14 00 02 04 06 08	56.1 58. 56.7 59. 55.2 57. 54.0 56. 54.3 56.	2 36 8 34 8 32	-25.8
10 12 14 16	42.8 41.2 41.4 41.0 38.2 36.2 34.0 32.0	25 26 33	-22.9	10 12 14 16	48.8 43.0 45.3 48.2	46.5 41.2 43.5 47.2	44 53 50 44	-20.6	10 12 14 16	55.4a 51.2 52.0 51.2 52.9 50.1 51.6	31 32 26 27 25	-28.4	10 12 14 16	54.3 56. 54.8 56. 55.1 56. 55.0 56. 55.9 57.	7 33 8 33 8 33	-25.4
18 20 22 24 26	31.2 29.3 33.1 31.9 31.7 29.2 32.3 30.7 30.7 28.6	44 40 44 42		18 20 22 24 26	50.2 49.9 49.6 49.0 48.0	48.9 48.3 48.7 48.0 47.2	42 42 42 43 43		18 20 22 24 26	47.I 49.2 46.5 47.2 45.3 47.I 46.6 49.4 45.0 48.3	21 19 18 21		18 20 22 24 26	55.1 56. 54.7 56. 55.8 57. 55.1 56. 54.2 56.	33 32 3 34 3 33	
28 30 32 34 36 38	28.2 25.7 25.2 22.3 25.9 24.9 24.8 24.2 26.9 26.3	49	-22.3	28 30 32 34 36	48.5 49.1 50.0 48.9 49.2	46.8 47.8 49.1 47.5 48.1	44 43 42 44	-20.7	28 30 32	52.7 53.8 54.7 60.1 54.3 58.8 49.9 54.9	29 36 34 28	-28.o	28 30 32	53.4 55. 54.0 55. 51.1 53. 51.1 52.	31 33 31 28 32 26	-25.2
38 40 42 44 46 48	28.3 25.2 27.2 26.7 22.2 20.4 26.6 23.5 18.3 16.2 18.2 17.2	49 49 58 23 52 24 04 03	-22.0	38 40 42 44 46 48	49.8 49.9 48.0 47.7 45.4	48.9 48.1 46.5 46.7	43 42 42 45 45 49 48	-20.5	34 36 38 40 42 44 46 48	45. I 49.8 53.2 59. I 52.2 57.8 52.1 57. I 52.6 56.5 53.9 56.3	20 34 32 31 31 32	-27.8	34 36 38 40 42 44 46	51.3 53. 54.3 55. 50.5 53. 49.9 52. 49.8 52. 52.5 55.	7 32 3 27 7 26 2 26 7 30	-25.0
50* 52.4 54 56 58 00	48.7a 55.6 54.0 63.8 60.9 69.3 66.6 72.4 67.7 61.2 57.6	10 24 01 23 49 40 37 54	-21.6	50 52 54 56 58 11 00	46.1 47.2 48.2 48.4 50.8 50.3	44.8 45.7 46.8 47.3 48.7 48.2 48.2	46 45 44 41 42 42	-20.6	50 52 54 56 58 13 00	55.3 57.8 55.5 57.6 57.1 59.0 56.4 58.2 55.1 59.1 53.3 58.0 52.2 57.2	34 36 35 35 33 31	-27.2	44 46 48 50 52 54 56 58 15 00	55.7 58. 53.0 55. 55.2 58. 54.3 56. 55.2 58. 56.9 59. 53.3 55.	31 34 32 34 34 35 37 31	-25.0
02 04 06 08 10	69.3 65.3 69.3 67.1 65.6 64.7 64.0 62.5 71.0 69.2 70.0 69.2	41 40 45 48 37 38 38		02 04 06 08 10	51.8 50.2 51.3 49.8 48.0 54.2	49.9 48.1 48.3 48.2 45.7 52.9	39 42 41 42 46 35		02 04 06 08 10	55.3 59.2 58.2 61.2 57.7 60.1 57.5 59.9 55.1 57.7 55.2 57.8	35 39 38 38 34 34		02 04 06 08 10	54. I 57. 55. I 57. 56. 3 58. 58. 0 59. 57. I 58. 2 59. 9	34 36 37 37 36	
14 16 18* 20 22 24	69.7 68.9 77.8 76.2 49.8 44.3 49.1 42.1 51.3 45.7 47.8 41.8	38 26 24 26 22 28	-21.2	14 16 18 20 22	55.0 51.3 50.9 54.8 50.9 53.9	53.1 48.3 48.3 51.2 47.9 50.9	34 41 41 36 42 37	-20.5	14 16 18 20 22	58.2 60.2 59.6 61.3 57.2 59.0 57.0 58.8 57.1 58.8 55.9 57.4	34 38 40 37 36 36 36	-26.9	14 16 18 20 22	58.4 59.61.0 62.66.3 67.69.8 71.66.7 68.65.2 67.	42 51 56 52	-25.0
26 28 30 32	48.9 42.0 57.6 50.3 62.4 55.8 67.8 60.3 77.8 66.0	27 14 23 05 22 58 45	-21.0	26 28 30 32	53.4 58.5 61.8 63.9 61.7	49.7 55.4 57.6 62.5 59.2 56.0	38 30 26 20 24	-20.7	26 28 30 32 34 36	55.1 56.8 54.0 55.8 50.3 52.0 52.0 53.0 53.2 54.1	33 32 26 28 30	-26.4	26 28 30	65.0 67. 64.2 66. 62.3 64.6 61.1 63.	49 48 45 43 44	-24.7
40 42 44	76.3 70.2 53.1 47.2 51.9 46.8 53.2 48.9 52.6 48.0 53.9 48.9	43 40 42 39 40 38	-20.7	34 36 38 40 42 44 46 48	58.4 55.3 53.8 52.5 57.1 57.8	50.0 53.8 52.2 49.3 53.0 54.3	29 34 36 39 33 31	-20.7	36 38 40 42 44 46	52.9 54.0 50.7 52.7 50.0 51.0 52.0 52.6 53.3 54.8 54.2 56.9	29 26 25 28 30 32	-26.0	36 38 40 42 44	62.0 63.6 63.5 65.6 66.1 67.6 66.0 66.6 63.8 64.6 65.0 65.6 63.8 64.6 64.0 64.0	50 49 46 48	-24.7
50 52 54 56	55.3 51.4 55.3 51.8 54.0 50.9 56.1 53.2 56.2 53.7	35 35 37 33 33		48 50 52 54 56 58	54.2 50.8 51.2 51.9 52.0	51.2 48.3 48.8 49.2 49.4	36 42 41 40 40 38		48 50 52 54 56	52.2 55.4 51.3 54.0 52.9 55.1 51.9 54.2 52.5 55.8	30 28 30 29 30		32 34 38 40 44 46 45 55 55 58	63.2 64.6 64.6 65.6 64.9 65.	46 45 47 47 48	,
58	54.1 51.5	36		58 12 00	52.9	50.8 49.4	38 40	-20.6	58	55.6 58.0	35		58 16 00	61.9 62. 69.9 70.	43	-24.7

<sup>&#</sup>x27;Correction to local mean time is — 40s.

Torsion head at 7h oom read 96° and at the end read the same.

Correction to local mean time is - 49s.

Torsion head at 11h 15m read 87° and at the end read the same.

hr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scread read	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	
m	d d	. ,	0	h m	d	d	۰,		h m	d	d	۰,	•	h m	ď	đ	0 ,	0
02				2 00	22.0 20.3	21.2 18.3	22 59 23 03	-28.5	4 00	54.0 55.3	53.6 55.0	23 03 01	-27.9	6 00	57.6 56.8	57.0 55.6	22 58 23 00	-27.8
04*5	26.0 25.3	22 53	-29.2	04	18.5	17.8	04		04	50.9	49.0	10		04	50	ob	09	
06.2 08	26.0 23.8 20.3 20.1	22 54 23 01		06 08	10.2 14.2	9.0 13.6	18		06 08	46.2 47.6	44.2 45.2	17 15	1 1	06 08	45.7 47.0	44.3 46.8	17 14	
10	27.3 22.5 30.8 28.6	22 54		10 12	17.6 8.6	16. <b>6</b> 6.4	06 21		10	41.6	39.7	24 16		I0 I2	45·3 45·3	4I.0 4I.0	20 20	
12 14	28.3 26.0	46 22 50	-28.8	14*	21.6	19.8	14	-28.4	12 14	46.0 48.6	45.0 47.2	13	27.8	14	44.3	40.6	21	-27.
16 18	20.5 18.6 14.0 12.0	23 02 13		16 18	24.3 28.0	23.6 26.5	23 03		16 18	49.5	48.0 47.0	12 13		18	43.0 51.6	39.4 44.0	23 13	
20	14.0 12.7	23 12		20	34	.oa	22 53		20.2	45.0	44.5	18		20	50.2	47.8	11	
22 24	32.0 3I.2 32.6 3I.3	22 43 43		22 24	36.0 37.8	35.6 37.0	50 47-		22	43·3 42.0	42.3 41.0	21 23		22 24	45.6 45.0	39·3 37·5	2I 23	
26	38.2 38.0	33		26	40.0	39.3	44		24 26	43.5	41.9	21		24 26	45.7	43.6	23 18	
28 30	42.0 38.6 31.6 30.3	30 45	-28.6	28 30	38.2 38.5	37.6 38.0	47 46	-28.3	28 30	47·3 49.0	46.3 48.2	I4 I2	-27.9	28 30	51.0 52.3	50.4 49.4	08 08	-27.
32	35.5 35.0	45 38		32	37.5	37.3	47		32	47.7	47.0	14	• •	32	56.6	52.2	23 02	ľ
34 36 38	44.3 42.3 47.6 46.3	25 19		34 36	38.3	38.1 36.4	46 48		34 36 38	47.8 46.6	47.0 46.0	14		34 36	61.6	59.5 66.5	22 53 42	
38	44.0 43.5	24		38	38.3 36.6	37.6 36.3	47		38	42.6	42.3	21		38	72.0	69.3 68.8	37	
40 42	35.0 34.0 37.7 36.6	39 35		40 42	36.3	35.3	49 50		40 42	45·4 47·3	45.0 46.5	17 14		40 42	62.0	бо.о	39 52	
44 46	31.3 29.5 35.9 34.3	35 46 38	-28.7	44 46*	32.4 27.0	32.2 24.0	22 55 23 48	-28.2	44 46 48	48.9	48.3	12 07	-27.9	44 46	60.3 63.0	58.6 61.0	55 51	-27
44 46 48	35.5 34.2	38		48	42.0	30.0	24		48	52.3 55.6	55.1	23 01		48	60.5	59.0	54	.,
50 52	33.0 32.6 20.3 19.5	22 42 23 02		50 52	43.6	38.0 43.0	24 16		50 52	58.6 57.2	58.3 56.0	22 56 22 59		50 52.2	59.9	59.2 58.4	54 55	1.
54	21.0 20.3	10		54	39.8	35.0	29 16		54 56	53.8	51.8	23 05		54.3	60.0	58.5	55	
56 58	14.5b	10 15		54 56 58	48.0	43·3 44.0	16		56 58	54.2 51.7	52.6 51.3	04 07		56 58	60.9 63.0	59.5 62.3	53 50	
00	8.6 7.5	20	-28.8	3 00	46.8	43.3	17	-28.2	5 00	53.2	51.6	<b>o</b> 6	-27.8	7 00	61.0	59.Ğ	53	-27
02 04	15.1 13.5 23.3 23.3	23 11 22 56		02 04	46.0 47.5	45.0 42.8	16		02 04	54.1 57.2	53.0 56.5	23 04 22 59		02 04	60.1	59.0 58.9	54 54	1
06	30.6 30.3	22 45		06	56.3	53.3	02		06	58.1	57.3	57		06	60.0	58.2	22 55	
08 10	19.8 18.8 26.8 24.6	23 03 22 53		08	54·3 49.6	51.7 48.6	05		08 10	57.8 60.0	50.7	57 54		08	57·3 56.7	55·3 54.6	23 00 23 0I	
12	25.3 25.0 26.0 24.7	54		12	45.6	41.8	19 06		12	58 57.8	3.8b	22 56		12	58.2	56.5	22 58 22 54	27
14 16	28.0 26.8	53 50		14 16	53·3 56.7	51.3 54.3	01		14 16	55.0		23 01 02	-27.8	14 16	55.5	59.0 47.8	23 07	-27
18 20	30.2 29.2 31.2 30.0	46 45	1	18	51.5	50.0 46.8	08		18 20	56.3 56.9		23 00		18 20	53·4 51.6	51.9 50.8	05 08	
22	33.5 33.0	41		22	49.0	47.3	12		22	58.3 60.8	58.3	22 59 56		22	55.5	54.0	02	
24 26	34.4 34.0 36.0 35.8	39 37		24 26	57.0		09		24 26	60.8	60.6 62.3	53 50		24 26	56.7	54.7	23 00	
28	36.0 35.8 34.6 34.3 32.3 32.1 35.4b 26.6 26.3	39		28	57.0 56.0 59.1 58.0	55.0 55.2 58.3 57.3	23 OI 22 56		28	63.4	63.3	48		28	59.5 59.6	58.0 59.3 57.4	22 56 55 22 56	
30 32	32.3 32.1 35.4b	42 37	-28.8	30 32	59.1	58.3 57.3	22 50	-27.9	30 32	64.3	63.2	48 48 47	-27.7	30 32	59.0	57·4 49.0	22 50	-27
34	26.6 26.3	52		34	51.3	50.0	22 57 23 08		34	62.9	62.4	50		34	51.4 48.0	45.3	15	
30 38	27.3 27.0	51		34 36 38	51.3 48.3 47.3	47·5 46.0	13 15		32 34 36 38 40 42	59.5 56.6	58.9 56.0	22 55 23 00		34 36 38	49.0 52.0	45.2 48.0	14	
40	27.3 26.3	51		40	54.0	52.3	04		40	56.3	55.7	23 00		40	51.6	46.3	11	
34 36 38 40 44 46 48 50 52 54 56 58	30.7 29.3 32.0 30.4	44	-28.5	40 42 44 46 48	54·5 50·3	53·3 49·7	03	-27.9	42   44	62	).0a  .0a	22 55 47	-27.7	42 44	58.9 56.0	52:4 49:3	01	-27
46	31.0 29.5	46		46	50.3	40.0	09		44 46 48 50 52 54 56 58	160.5	60.5	39	'	44 46 48	61.3	51.0	23 00	
50	24.7 23.5	49 55		50	50.3 51.6	49.6 50.0	08		40 50	70.5 68.6	70.3 68.0	41		48 50	64.4	56.5	22 54 57	
52	23.2 21.7	55 58 55		52 54 56 58	56.6	53.8	23 01		52	66.0	65.2	45		50 52 54 56 58	59.5	58.0	56	.
56	25.0 23.4 23.8 21.6 26.0 24.3	55 57 54		54 56	59.9 54.0	57·5 50·3	22 56 23 06		54 56	59.6 56.0 63.3	59.0 56.0	22 55 23 00		54 56	59.0 61.0 59.6	58.6	57 54	

Observer-W. J. P.

Chr'r time	Scale readin	gs	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca read	ings	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Tem C.
n m 3 00 02	d 59.9 5 62.0 6	d 8.0	。 , 22 55 52	-26.2	h m 10 00 02	d 73.0 75.2	d 69.8 73.8	° , 22 36 31	-26, I	h m 12 00 02	d 58.0 58.0	d 56.0 57.1	22 25 24	-25.8	h m 14 00 02	d d 55.0b 53.5 52.6	。 , 22 28 31	-25.0
04 06 08 10 12 14 16 18	57.0 5 55.0 5 56.5 5 48.2 4 48.8 4 52.5 4	7.7 3.8 0.3 1.4 2.5 0.0 3.8 4.8	22 56 23 01 05 03 17 18 12	-26.2	04 06* 08.5 10 12 14 16 18	76.6 57.8 66.5 56.8 57.6 58.4 54.5	74.0 56.5 58.0 55.6 57.2 53.8	30 24 17 26 25 23	-26.0	04 06 08 10 12 14 16	56.5 55.5 53.3 54.0 58.2 57.3 53.0	56.5 55.5 52.3 53.0 57.7 55.9 51.1	24 26 27 31 30 23 25 33	-25.7	04 06 08 10 12 14	53.8 53.0 56.0 55.0 57.0 57.0 55.5 55.5 54.5 54.1 55.0 55.0 55.1 54.0	30 27 25 27 29 28 29 28	-25.0
20 22 24 26 28 30 32	54.0 4 52.9 4 53.6 3 57.8 3 55.0 4 60.0 4	4.6 4.7 4.2 9.0 9.5 7.0	23 10 13 19 12 13 04 12	-26.2	20 22 24 26 28 30 32	57.7 59.0 60.0 56.0 60.0 59.7 56.2 53.1	54.7 56.0 57.1 55.0 56.0 54.9 50.0 48.5	26 24 22 27 23 24 31	-25.8	20 22 24 26 28 30 32	53.0 52.0 54.6 58.5 52.2 50.9 50.0 50.3	52.0 51.1 53.0 51.2 49.9 50.0 49.1 50.0	32 33 30 28 34 35 36 36	-25.6	18 20 22 24 26 28 30 32	55.1 54.9 58.0 56.8 57.2 55.0 58.2 57.0 60.0 57.9 61.0 58.2 60.2 57.5 60.2 57.5	24 26 24 22 21 22	-25.0
34 36 38 40 42	55.0 3 53.0 3 57.3 3 70.5 4 51.6 3 67.8 4 69.8 4	8.6 4.0 2.8 9.4 5.0 8.8 4.4	20 23 17 22 54 23 20 22 56 58	-26.5	34 36 38 40 42 44 46	51.5 48.4 51.8 51.1 54.5 49.0 46.0	48.1 45.5 49.3 48.6 46.1 44.7 42.8	34 36 41 35 36 35 41 44	-25.8	34 36 38 40 42	53.1 53.2 55.0 55.8 54.2	53.0 52.5 55.0 54.0 55.0 54.0	31 31 28 27 29 27 28	-25.5	34 36 38 40	60.2 57.9 58.0 55.8 57.3 55.0 59.8 57.5 58.3 56.2 58.8 56.5 57.0 54.2 55.1 52.8	22 25 26 22 24 24 27 30	
44 46 48 50 52 54 56 58 00	66.5 4 72.4 5 67.0 4 73.0 5 73.2 5 72.3 6	8.9 6.5 0.5 9.0 5.8 8.2	57 59 52 57 47 45 44	-26.8	48 50 52 54 56 58 11 00	47.0 53.0 54.0 54.5 53.8 54.6 57.8	44.0 50.2 51.4 51.8 51.2 51.0 55.0	43 33 31 31 32 31 25	-25.9	44 46 48 50 52 54 56 58	55.3 54.7 54.5 55.3 56.0 56.0	54.8 53.1 53.9 53.5 55.0 54.5 53.9	28 30 29 29 28 28 28		42 44 46 48 50 52 54 56 58 15 00	56.3 54.0 55.3 53.1 54.7 53.0 53.8 53.0 54.5 52.8 55.7 54.8 56.3 55.6	28 29 30 30 30 28 26	-24.8 -24.8
02 04 06 08 10 12 14	64.1 5.72.8 6.72.2 66.5 54.5 54.1 55	0.7 4.5 2.8 0.5 8.4 4.5	43 55 41 44 48 53 39	-26.7	02 04 06 08 10 12	55.6 53.8 53.0 52.0 51.7 51.2 51.0	52.4 50.8 50.9 50.0 48.9 48.2 48.0	29 32 33 34 35 36 36	-26.0	02 04 06 08 10 12	55.5 55.0 55.2 54.1 54.9 56.0	54.9 53.2 53.5 53.0 51.5 52.7 53.5	26 29 29 29 31 30 28	-25.2 -25.1	02 04 06 08 10 12	55.0 54.3 56.2a 59.0 59.0 58.0 57.2 56.8 56.0 58.3 57.2 56.4 55.1	28 26 22 24 26 24 27	-24.7
16 18 20 22 24 26	74.8 66 73.4 66 68.9 62 69.5 62	5.1 5.8 2.8 2.2 7.2 5.1	37 38 45 45 39 43	,	16 18 20 22 24 26	52.9 53.2 54.2 53.3 55.0	49.8 50.0 50.7 50.0 51.8	34 33 32 33 30 22		16 18 20 22 24 26 28	54.8 54.9 56.0 55.4 56.2	51.0 51.0 52.0 51.8 52.0	31 29 30 29 29 28		16 18 20 22 24 26	51.7 50.4 52.0 50.9 52.3 51.8 52.1 51.3 53.2 52.8	34 34 33 33 31 30	_4.,
28 30 32 34 36 38	68.7 65	3.0 0.4 3.0 0.9 0.0	55 43 52 47 35 37	-26.2	28 30 32 34 36 38 40	60.0 56.8 58.7 59.0 60.2 54.4 54.0 49.2	55.7 57.8 57.8 58.4 53.2 51.3 47.2	26 23 22 21 30 32 38	-26.o	30 32 34 36 38 40	56.2 54.7 54.9	52.1 53.2 53.2 52.9 53.8 54.0 53.0	28 30 29 29 30 31	25. I	28 30 32 34 36 38	53.8 52.8 55.9 54.8 59.8 57.8 60.3 59.6 58.7 56.6 56.4 54.2 55.8 53.7 56.2 54.8 55.3 53.8 52.8 50.0	27 22 20 24 27 28	-24.8
46 48 50 52	65.5 65 64.6 62 61.8 61 64.6 62	.0	42 46 48 52 48 45 46 34	-26. I	42 44 46 48 50 52 54 56 58	47.9 49.0 48.9 48.9	45.7 46.7 47.8 46.6 47.6 50.5 51.9	39 38 39 38 39 38 33 28	-26.0	42 44 46 48 50 52 54 56	52.0 52.0 53.0 51.3 52.1 54.8	52.0 51.0 52.0 50.3 51.1 52.1 54.4	33 33 32 34 33 30 28	-25.1	40 42 44 46 48 50 54 55 56 58	55.3 53.8 52.8 53.0 52.0 54.0 52.5 53.9 51.9 56.0 55.2 55.2 55.2 55.2 55.3 53.8 53.0	27 29 34 31 31 28 27	-24.5

Observer—J. V.

Observers—J. V. and R. R. T., who alternated from 15h 42m to 15h 52m.

		1	T -				1	1				1		11				1 -
Chr'r time	Scale readings Left Righ	East decli- nation		Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	Sca read Left		East decli- nation	Tem C.
n m	d d			h m	đ	d	0 ,	•	h m	d	đ	0 ,	0	h m	đ	d	۰,	0
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04	51.8 50.	I 34		04	52.9	50.8	33		04	40.2	38.4	52		04 06	51.3	49.2	35	
об <b>о</b> 8	51.8 49. 51.0 50.			06 08	52.2 52.8	50.4 50.1	34 34		06 08	38.0 38.9	37.2 37.3	55 54		08	52.2 52.9	49.4 50.6	34 33	
10	51.2 50.	5 34	.	10	53.0	50.1	33		10	37.6	36.9	54 22 56		10	53.7	51.1	32	
12 14	52.9 50. 54.9 53		-23.8	12 14	52.8 51.9	50.7 50.3	33 34	-24.0	12 14	34.0 34.8	33.0 33.1	23 02 01	-23.3	I2 I4	53.2 53.2	51.0 50. <b>9</b>	32 33	-23.4
16	54.8 52.	0 30	)	16	51.6	50.3			16	34.2	32.8	02	-3.3	16	54.1	52.4	31	_5
18 20	53.5 51. 56.2 54.			18 20	50.2 49.1	49.2 48.1	34 36 38 38		18 20	32.8 35.2	31.0 32.7	04 23 0I		18 20	54.8 54.0	52.8 52.8	30 30	
22	56.7 54	3 27		22	49.1	48.2	38		22	37.2	35.5	22 57		22	52.7	50.2	34	
24 26	55.2 53.	3 29		24 26	50.I 51.0	48.9	37		24 26	39. I 42.0	37.I 40.0	54 50		24 26	46.1 38.0	44.9 36.9	43 56	ð£,
20 28	55·3 53 56.0 53	7 2		28	50.8	49.7 49.2	35 36		28	43.I	40.2			28	42.6	40.7	22 49	86
30	56.3 54.	6 27	-23.9	30	50.8	49.3	36	24.0	30	44.4 45.8	41.8	49 46	-23.6	30	32.8	28.9	23 06	-23.4
32 34	56.3 54 56.8 54	6 27	,	32 34	50.7	49.7 50.3	35 34	-24.0	32 34	45.0	42.8 42.9	45 44		32 34	37.9 16.9	35.I 14.9	22 57 23 20	
34 36 38	56.3 54.	2 28		34 36 38	52.0	50.9	34		34 36 38	46.0	43.4	44		34 36 38	34.1	27. I	23 29 23 06	
38 40	55.7 53. 54.9 53.	8 28 4 29		38	52.5	51.2 52.0	33 32		38 40	47.0	44.0 45.0	43 42		38 40	38.2 39.2	32.5 34.2	22 59 57	
40 42	56.7 54.	2 27	'	42	53.5	52.9	31		42	47.2	44.8	42		42	44.3	39.2	49	
44 46 48	59.8 57. 57.5 55.		-24.0	44 46	53.I 53.I	52.3 52.0	32 32	-24.0	44	47.6 47.8	45.1 44.6	42	-23.8	44 46	45·4 42·9	41.7 38.9	50	-23.0
48	57.1 54.	I 27	'	48	52.3	51.2	33		48	47.2	44.2	42		48	46.9	43.0	44	
50	58.1 56.		<u> </u>	50 52	51.3	50.3 49.7	34 36		44 46 48 50 52 54 56 58	45.7	43.7	44	ļ.	50	49.9	44.2	40 40	<u> </u>
52 54 56 58	57·9 55 57·4 55	1 26	5	54 56	50.1	49.7 49.1	36		52	46.9 48.1	45.I 46.0	42 40		52 54	49.7 52.9	45·3 48.5	35	
56	57.1 54			56 58	50.0	49.2 48.9	36 37		56	46.9	45.2	42		56	54.3	49.5	33	
7 00	57·3 55 57·3 55			19 00	50.0 51.2	49.5	35	-24.0	21 00	46.0	45.2 44.8	43 43	-23.9	58 23 00	54.I 57.0	50.0 52.2	33 28	-23.
02	54.9 53	3 29		02	50.4		37 36		02	45.0	44.2	44		02	56.0	51.1	30	
04 06	54.9 53 56.0 63		3	04	50.9 50.1	48.9 47.9	37 38		04 06	45.0 44.2	43.I 43.0	45 46		04 06	55.0 53.8	50.3 51.2	32 32	
08	55.4 53	0 29		08	49.3	47.3			08	43.2	42. I	47		о8	49.9	47.8	32 38	
10 12	53.9 51 53.9 51			10 12	48.8	47. I 46. 7	39 40		I0 I2	49.3	47.0 49.2	39 35		10 12	46.9 29.	44.8 4b	22 42 23 08	
14.3	53.9 52	5 3	[	14	47.2	45.8	41	-23.9	14	50.2	49.2	35 36 36	-23.8	14*	59.7	41.0	52	-23.4
16 18	54.3 52 54.3 52			16	46.8 46.0	45.7 45.2	42 43		16 18	50.8	48.6 48.2	36		16 18	78.7 36.2	65.5 25.1	23 18 24 23	14
20	52.9 51	.1 3	3	20	46.8	44.9	42		20	49.9	48. I	37		20	36.3	22.I	24 26	12
22 24	52.7 51 54.2 52			22 24	46.0	44·3 44·3	43		22 24	51.8	49.2 49.1	35 36		22 24	70.9 78.3	65.5 69.5	23 24 23 15	
26	54.8 52 53.8 51	3 30	)	26	46.8	45.0	42		26	50.4	48.3	37		26	30.0	20. I	24 25	
28 30	53.8 51 53.8 51	3 3	2   [  -24.0	28 30	44.6	42.3 42.1	42 46 46 46	-23.8	26 28 30	50.4	48.3 48.1	37	-23.8	28 30*	73.9	69.3	23 19 24 06	
32	53.8 51	9 3	[ 24.0	32	43.9	42.8	46	23.0	32	49.5	48.8	37 37	-23.6	32	45.2 58.3 66.8	30.5 44.9	23 44	-23.
32 34 36 38	52.0 51	I 3;	3	34 36 38	44.9	43.7	44		32 34 36	49.5 49.0 48.7	47.7	37 38		34 36	66.8	52.5	32 36	* .
38	52.8 52 53.0 52	3 3	2	38	43·3 45.6	42.I 43.3	47 44		38	48.9	47.I 47.2	39 39		38	62.2 63.6	51.7 51.8	35	,
40	53.9 52	2 3	[ ]	40	40.4	43.3	44		4.0	48.7	46.9	39		40	65.4	55.4	31	
42	53.9 52 52.3 51	2   2   33		42 44	46.0 46.2	43.2 43.3	44	-23.5	42	48.9 48.7 48.2 47.6	46.9 46.0	40 41	-23.7	42 44	62.2 60.1	54. I 52. 5	34 37	-23.
46	54.1 52	2 3	[ ]	44 46 48	45.8	43.2	44		46	47.0	40. I	41		44 46 48	58.2 46.1	50.9 38.6	40	,
48 50	54.2 52 54.0 51			48 50	43.9 43.8	41.6 42.0	47 47		48	47.2 47.2	46.7 46.7	4I 4I		48 50	40.I	38.6 26.8	23 59 24 14	
52	54.0 50	9 32	2	52	43.2	42.2	47		52	49.2	48.9	37		52	39.2 48.9	33.7	24 00	
40 42 44 46 48 50 52 54 56 58	54.1 51 54.8 50	8 32		50 52 54 56 58	44.6 44.3		45 46	Ì	42 44 46 48 50 52 54 56 58	50.0	49. I 48. 2	36 38		54	72.9 80.0	60.3 64.5	· 23 21 12	
58	54.8 51	2 3		58	45. I	43.2	44		58	49.2 49.3	48.0	-38		54 56 58*2	38.2	21.0	23 18	
:	1				1									24 00	60.8	51.0	22 37	-23

Observer-R. R. T.

Correction to local mean time is - 50s.

Torsion head at 22h 45m, January 12, read 81° and at the end read the same.

Observer-R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

day, January	14, 190	4		N <sub>1</sub> , 8 - 8	Magne	et scale	erect	Frida	y, Janu	ary 15	, 1904			Ma	gnet s	cale inv	erted
Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ings	East decli- nation	Temp. C.	Chr'r time	read	ings	East decli- nation	Temp. C.	Chr'r time	read	ings	East decli- nation	Temp C.
d d	۰,	•	h m	d	ď	0 ,	0	h m	d	d	0 /	•	h m	d	d	0 ,	•
40.8 41.0 40.1 40.4 40.0 40.7		-19.4	02 04 06	38.3	39.8 40.0 39.8 39.7	36 35 35	-20.0	02 04 06	47.6 47.4 46.6	40.7 43.9 43.2 44.0	34 34	-21.4	02 04 06	45·3 44.8	43.6 44.2 43.7	36 35 36	-17.9
38.8 40.3	37		10	36.8 36.8	39.5 39.3	34		10	44.8	43.0 41.8	36 37 38		10	43.3	43.1	38 30	
37.9 39.8	36 36	-19.6	14 16	36.8 36.5	38.9	34 34	-20.0	14 16	43.7 44.9	42.0 42.7	37	-20.9	14 16	42.2 42.7	42.2 41.1	39 40	-17.8
38.1 38.8 38.7 39.5 39.1 40.8	35 36 38		18 20 22	37.1	38.9	35 35		18 20 22	49.2	44.2 46.8 46.2	30		20 22	43.7	42.2 42.1 42.1	38 38 38	
38.7 40.2	37 37		24 26 28	37·7 38.0	39·3 40.0	35 36		24 26 28	47.2 46.9	45.4 45.4	33 33	ļ	24 26 28	44.3	42.0 42.1	38 38	
39.2 42.5 40.9 42.7	40	-19.6	30 32	39.2 39.0	41.0 41.9	38 38	-20.0	30 32	47.9 48.6	45.9 45.1	32	-20.0	30 32	43.3	4I.I 4I.I	39	-17.6
39.3 41.0	38 37		34 36 38	39.0	42.0 41.7			34 36 38	50.5 50.3 50.2	47.7 48.3 47.2	28		34 36 38	43.1 43.2 42.7	41.6 41.6 40.9	39 39 40	
38.8 40.0 39.2 40.2	37	-10.6	40 42	39.9 39.7	41.3	39	-20.0	40 42	51.9 51.9	49.9	26	-10.2	40 42	40.3	39.0 39.0	43	-17.3
38.8 40.2	37 37 37	19.0	46 48	39.7 39.9	41.7 42.0	39 39	20.0	46 48	53.2 52.1	50.7 50.1	24 25	-9	46 48	4I.0 39.2	39.8 38.2	42 45	1,10
38.3 40.3 38.8 40.8	37 36 37	ı	50 52 54	40.3	42.I	40		50 52 54	53.9 56.9	51.7 54.9	22 18		52 54	4I.0 4I.2	40.1 40.2	42	
38.9 40.8 38.4 40.8	37 37 36	-20.0		39.0	41.8	38 38 38		56 58 21 00	53.7	51.7	23	-18.3		46.3	45.0	34	-I7. I
37.6 39.9	36 36		02 04	38.5 38.1	41.8 42.0	38 38		02 04	53.8 54.0	49.7 49.4	24 24		02 04 06	47.8 50.8	46.1 48.7	32 27	
37.7 39.7 37.8 40.0 38.0 40.3	36 36		08	38.2 38.3	42.2 42.1	38 38		08 10	54.2 55.3	50.5 51.9	23 21		08	54.0 57.2	52.3 55.2	22 17	
38.5 40.3 38.7 40.2 30.2 40.0	37 37 37	-20.0		38.8	42.0	37	-20.0	14 16	56.8	54.0 55.8	18 17	-18.o	14 16	59.4	57.0	14	-17.0
39.3 40.2 39.1 40.3	37 37		18 20	38.2 38.2	41.0 40.3	37 36		20	53.8	56.9 52.8	22		20	54.0 51.1 40.6	48.1	20	
39.I 40.0			24 26			37 37		24 26			18		U		48.3 48.8	29 28	
39.7 40.8	38 38 37	-20.0	30 32	38.4	40.3	36	-20.0	30	55.1 52.8	53.9 52.6	20 23	-18.o	30	47.3	46.9	31	-16.g
39.0 41.8 39.3 41.8	38 39		34 36 38	37·3 36.8	39.8 39.1 38.0	35 34 34		34 36 38	48.7 48.8 44.8	48.4 48.2 44.4	29		34 36 38	45.0	43.7	36	,
39.0 40.0 38.4 40.0	37 36		40 42	36.7 36.4	38.3 38.0	34 33	-20.0	40 42	45·9 50·3	45.2 48.8	34 28		40 42	43.9	42.8 42.1	37	7
38.7 39.8 38.7 40.0 38.6 40.0	30 37 36	-20.0	44 46 48	36.9 35.6	38.I 40.7	34 34	20.0	46 48	45.I	43.9	30 36		46 48	44.2	42.4 40.9	) 37	7
38.2 39.8 38.0 39.7	36 36		50 52 54	36.0 35.8 35.8	40.2 40.3 40.0	35		50 52 54	40.2	: 38.8	43 42		50 52 54	43.0	38.3	39	9
38.3 39.8 38.2 39.8	36 36		56 58	36.0 36.0	39.9 39.8	34 34	~20.0	56 58	41.8	39.9 38.9	41 42		56 58	42.9	38.4 38.6	42	I
	Scale readings Left Right  d 40.5 41.0 40.0 44.0 40.1 40.4 40.0 38.8 40.3 38.7 40.8 38.7 40.8 38.7 40.8 38.7 40.8 38.7 40.8 38.7 40.2 38.8 40.2 38.7 41.8 39.2 42.7 40.8 42.7 40.8 42.7 40.8 42.7 40.8 42.7 40.8 40.0 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.3 38.8 40.8 38.9 40.8 38.1 40.3 38.7 40.0	Scale readings Left Right  d d 22 39 40.8 41.0 38 40.0 40.4 38 40.0 40.3 37 39.3 40.8 38 38.8 40.3 37 37.9 39.8 36 37.6 39.7 39.5 36 38.7 40.2 37 38.7 41.8 38 39.2 42.5 39 40.9 42.7 40 40.8 42.7 40 40.8 42.7 40 40.8 42.2 37 38.7 41.8 38 39.2 40.2 37 38.8 40.2 37 38.8 40.0 36 39.2 40.2 37 38.8 40.2 37 38.8 40.2 37 38.8 40.2 37 38.8 40.2 37 38.8 40.2 37 38.8 40.3 37 38.8 40.2 37 38.8 40.2 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 38.8 40.3 37 39.1 40.3 37 38.9 40.8 37 39.1 40.3 37 39.1 40.3 37 39.1 40.3 37 39.1 40.3 37 39.1 40.3 37 39.1 40.3 37 39.1 40.3 37 39.1 40.3 37 39.1 40.3 37 39.1 40.3 37 39.1 40.3 37 39.1 40.3 37 39.1 40.3 37 39.1 40.0 37 39.3 41.8 38 39.7 40.8 38 39.8 41.1 38 39.7 40.8 38 39.8 41.1 38 39.7 40.8 38 39.8 41.1 38 39.7 40.8 38 39.8 41.1 38 39.9 41.1 37 39.0 40.0 37 39.1 40.0 37 39.1 40.0 37 39.1 40.0 37 39.1 41.0 38 39.9 41.1 37 39.0 40.0 37 39.1 40.0 37 39.1 40.0 37 39.1 40.0 37 39.3 41.8 38 39.3 41.8 38 39.3 41.8 38 39.3 41.8 38 39.7 40.8 38 39.9 41.1 37 39.0 40.0 37 39.1 40.0 37 39	readings   declination   C.    d   d   0   0   0   0    40.5   41.0   22   39    40.1   40.4   38    40.0   40.7   38   38    39.3   40.8   38   35    37.6   39.7   36   36    38.1   38.8   35   36    39.1   40.2   37    38.7   40.2   37    38.7   40.2   37    38.7   40.2   37    38.7   40.2   37    38.7   40.2   37    38.7   40.2   37    38.8   40.2   37    39.3   41.0   38    39.2   40.2   37    39.3   40.3   37    39.3   40.3   37    38.8   40.2   37    39.3   40.3   37    38.8   40.2   37    39.3   40.3   37    38.8   40.3   37    38.8   40.8   37    38.8   40.8   37    38.8   40.8   37    38.8   40.8   37    38.8   40.0   36    37.7   39.7   36    37.7   39.7   36    37.8   40.0   36    37.7   39.7   30    38.7   40.2    37.7   39.7   30    38.7   40.2    37.7   39.7   30    38.7   40.2    37.7   39.7   30    39.1   40.0    37.3   39.6   40.0    37.3   39.6   40.0    37.3   39.7   40.8    38.9   41.1    39.7   40.8    38.9   41.1    39.1   40.0    37.3   39.6   40.0    37.3   39.6   40.0    37.3   39.7   40.8    38.9   41.1    39.1   40.0    37.3   39.7    39.1   40.0    37.3   39.7    39.1   40.0    37.3   39.7    39.1   40.0    37.3   39.7    39.8   41.1    39.9   41.1    39.9   41.1    39.9   41.1    39.9   41.1    39.9   41.1    39.1   41.0    38.9   36    39.1   40.0    37.3   39.6    39.1   40.0    37.3   39.6    38.7   40.0    37.3   39.6    38.7   40.0    37.3   39.6    38.7   40.0    38.8   30.3    39.1   41.0    38.9   30    39.1   41.0    38.9   30    39.1   40.0    37.3    39.1   40.0    37.3    39.1   40.0    37.3    39.1   40.0    37.3    39.1   40.0    37.3    39.1   40.0    37.3    39.1   40.0    37.3    39.1   40.0    37.3    39.1   40.0    37.3    39.1   40.0    37.3    39.1   40.0    37.3    39.1   40.0    37.3    39.1   40.0    37.3    39.1   40.0    37.3    39.0   40.0    37.3    39.0   40.0    37.3    39.0   40.0    37.3    39.0   40.0    37.3    39.0   40.0    37.3    39.0   40.0    37.3    39.0    40.0    40.0    40.0    40.0    40.0    40.0    40.0    40.0    40.0    40.0    40.0	Chr'r time   Chr	Scale readings   Left Right   Right   C.   Chr'r time   Left   Left   C.   Chr'r time   Left   Left   C.   Chr'r time   Left   Left   C.   Chr'r time   Left   Left   C.   Chr'r time   Left   Left   C.   Chr'r time   Left   C.   Chr'r time   Left   C.   Chr'r time   Left   C.   Chr'r time   Left   C.   Chr'r time   Left   C.   Chr'r time   Left   C.   Chr'r time   Left   C.   Chr'r time   Left   C.   Chr'r time   Left   C.   Chr'r time   Left   Left   C.   Chr'r time   Left   C.   Chr'r time   Left   Left   C.   Chr'r time   Left   Left   C.   Chr'r time   Left   Left   C.   Chr'r time   Left   Left   C.   Chr'r time   Left   Left   Left   C.   Chr'r time   Left   Left   C.   Chr'r time   Left   Left   C.   Chr'r time   Left   Left   Left   C.   Chr'r time   Left   Left   Left   C.   Chr'r time   Left   Left   Left   Left   C.   Chr'r time   Left   L	Scale readings   Left Right	Cale readings   Cale   Chr'r time   Chr'r time   Chr'r time   Left   Right   Chr'r time   Chr'r time   Left   Right   Chr'r time   Left   Right   Chr'r time   Chr'r time   Left   Right   Chr'r time   Chr'r time   Left   Right   Chr'r time   Chr'r tim	Scale readings   Left Right   Right   C.   Chr'r time   Left Right   Left Right   C.   Chr'r time   Left Right   Left Right   C.   Chr'r time   C.   Chr'r time   Left Right   C.   Chr'r time   Left Right   C.   Chr'r time   Left Right   C.   Chr'r time   Left Right   C.   Chr'r time   Left Right   C.   Chr'r time   Left Right   C.   Chr'r time   Left Right   C.   Chr'r time   Left Right   C.   Chr'	Chr'r   Chr'	Scale readings   Left Right   Right   C.   Temp   Left Right   Right   C.   Temp   Left Right   C.   Left Right Right   Left Right	Scale readings   Geclipant   Temp   Chr'r time   Chr'r	Scale   Feadings   Gedination   C.   Chr'r   Feadings   Left Right   Right   Gedination   Left Right   Left Right   Gedination   Left Right   Left	Scale readings   Left   Right   C.   Chr'r   readings   Left   Right   C.   Chr'r   readings   Left   Right   C.   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right	Scale readings   Left   Right   C.   Chr'r   C.   Chr'r   readings   Left   Right   C.   Chr'r   readings   Left   Right   C.   Chr'r   readings   Left   Right   C.   Chr'r   readings   Left   Right   C.   Chr'r   readings   Left   Right   C.   Chr'r   C.   Chr'r   readings   Left   Right   C.   Chr'r   C.   Chr'r   Right   C.   Chr'r   Chr'r   C.   Chr'r   Ch	Scale readings   Left   Right   Chr'r   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Right   Chr'r   Chr'r   Right   Chr'r   Chr'	Scale readings   Chr   Facings   Left   Right   Chr   Facings   Left   Right   Chr   Facings   Left   Right	Scale readings   Chr'

Correction to local mean time is — 56s.

Torsion head at 15h 20m read 84° and at the end read the same.

Observer—W. J. P.

Correction to local mean time is — 32s.

Torsion head at 19h 25m read 84° and at the end read the same.

Observer—R. R. T.

Sund	ay, January	17, 1904				Magn	et scale	erect	Sund	ay, Jar	nuary 1	7, 1904			Ma	gnet s	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
h m	d d	۰,	. 0	h m	đ	d	۰,	•	h m	d	d	. ,	0	h m	đ	d	۰,	•
0 00*	39.2 40.9 38.0 39.3	22 24 22	-9.0	2 00 02	26.7 24.7	29.3 28.2	23 04 02	-7.3	4 00*2 02	51.7 52.8	51.0 49.2	22 44 44	-6.4	6 00	45.2 51.8	41.0 49.6	22 58 46	-6.6
04 06	38.6 41.7 38.8 39.6	24 22		04 06	26.3 24.1	30.8 27.2	23 OI		04 06	53.0 54.5	49.9 54.2	44 39		04 06	49.7 45.1	46.3 42.2	50 57	
08 10	40.9 43.4 47.0 48.2	28 36		08 10	23.0 24.9	26.9 28.2	22 59 23 02		08 10	54.6 51.1	54. I 50. 7	39 45 48		08 10	44. I 43.7	40.9 40.9	59 59	
12 14	47.5 50.1 47.8 50.0	38 38	-8.9	12 14	28.1 24.0	31.0 26.0	07 00	-7.I	12 14	49.0 49.2	49.0 48.6	48	-6.5	12 14	45.6 50.0	41.5 47.9	57 22 49	-6.6
16 18	46.3 49.9 49.9 53.6 62.8 64.0	37 22 43		16 18	25.7 26.9	26.2 27.3 21.8	23 03		16 18	48.9 49.1	47.7 46.3	49 50		16 18	43.2	40.3 42.4	23 00 23 57	
20 22	49.8 55.7	23 OI 22 44		20	21.6 20.3 24.8	21.6 21.7 25.2	22 54 22 53 23 00		20 22	48.3 48.0	45.3 45.2	51 51		20 22	50.0 45.3	48.1 43.7 44.1	22 49 56 56	
24 26 28	64.1 66.7 57.8 61.9 56.9 62.2	23 04 22 55 55		24 26 28	32.0 30.0	33.2 31.9	11 09		24 26 28	47.2 47.2 46.4	44.3 44.1 44.0	53 53 54		24 26 28	44.1 44.1 50.4	42.4 47.2	58 49	
30 32	57.3 64.1 47.6 59.3	57 45	-9.0	30 32	29.I 25.0	31.8 27.8	08 23 02	-7.I	30 32	47.7 49.2	45·3 46.9	52 50	-6.5	30 32	52.3 46.1	48.8 43.2	46 22 55	-6.7
34 36 38	49.9 58.7 44.7 54.9	47 40		34 36 38	22.7 22.6	25.2 24.1	22 58		34 36 38	49.8	47.0 47.7	49 49		34 36 38	43.9 45.4	39.1 42.3	23 00 22 57	
38 40	41.9 51.9 52.7 57.3	35 48		38 40	23.3 22.9	25.0 24.8	57 58 22 58		38 40	50.7 49.3	48.4 47.7	47 49		40	50.2 51.6	47.0 48.2	49 47	
42	57.0 63.8 66.7 73.1	22 56 23 II	-8.9	42 44 46	25.0 24.9	26.3 26.7	23 00 23 0I		42 44	49.2 49.7	47·3 47·1	49 49 48	-6.6	42	51.8 48.1	49.1 45.5	46 52 48	-6.5
44 46 48 50*	62.8 76.2 66.5 74.3	11		48	23.9 23.0	25.8 25.8	22 59 58	-7.I	44 46 48	50.3 49.4		49		44 46 48	50.9 53.3	47·7 49·7	45	
50* 52	38.0 44.8 30.1 42.2	25 17		50 52	22.2	24.8 23.1	57 55		50 52	49.2 48.7	46.6	49 50		50 52	50.4 48.9	47.2 45.5	49 51	
52 54 56 58	24.9 35.4 27.0 37.8 28.1 36.9	07 11		54 56 58	20.2 18.4 18.2	21.7 20.7 20.5	53 51 51		54 56 58	47·3 46.2	45.2 45.0 45.8	53 54 52		52 54 56 58	51.3 49.9	48.9 46.8 44.1	47 49 54	
1 00 02	23.6 32.2 26.9 34.0	03	-8.7	3 00	18.9	20.4	51	-7.I	5 00	47.7 50.3 53.3	45.8 47.8 50.5	48 44	-6.6	7 00	47.4 44.9 44.8	43.0 44.6	57 55	-6.5
04 06	29.8 37.8 33.8 40.3	13	0.7	04 06	20.I 19.7	22.9 22.4	54 54		04 06	53.9 53.9	51.8 51.2	42 43		04 06	51.3 56.8	48.7 55.8	47 37	
08 10	35.I 43.2 39.4 46.I	2I 27		08 10	19.2 18.9	2I.I	52 52		08	51.1 48.3	48.2 45.0	47 52		08	44.0 36.3	43.I 35.8	22 57 23 09	
I2 I4	38.2 45.9 25.0 31.1	26 04		12 14	19.1	20.9	52 52	-7.0	I2 I4	48.2 49.9	45.2 47.2	52 49	-6.7	12 14	43.9 49.8	42.9 49.2	22 57 48	-6.4
18 18	33.7 38.7 43.1 46.9	31	-8.4	16 18	19.2 18.7	21.2	52 52		16 18	53.8 54.7	49.8 51.1	44 42		16 18	55.2 51.9	53·3 50.1	40 46	
20 22	34.0 39.1 31.2 36.8			20 22	19.2	21.8	53 54		20 22	53·3 47.8	49.9 44.1	44 53		20 22	49.0 44.8	47.2 43.6	51 57	
24 26 28	18.9 25.7 24.6 30.8 30.8 37.0	23 03		24 26 28	18.6	21.8	52 50		24 26 28	45.0 44.1 43.7	41.6 41.8	57 57 58		24 26 28	49.1 57.0	47.I 55.9	50 37	
	27.8 34.1	08 16	-8.1	30	15.1 13.8 13.6	19.7 17.3 17.3	50 48 45 45	-7.0	30	47.I	42.0 44.7 48.2	53 48		30	51.9 44.0 48.3 51.8	50.3 42.6	58 58	-6.4
34 36	32.3 36.I	14		32 34 36	13.3	17.1 17.9	45 45 46		32 34 36 38	50.0 47.7 44.8	44.8 42.5	52 22 56		32 34 36 38	51.8 49.1	46.0 49.9 46.7	37 46 58 52 46 51	70.4
38 40	31.1 35.2 31.0 35.3 33.1 38.0	12 16		38 40	14.2	18.7 20.1	47 49		38 40	42.9 43.1	40.0	23 00 22 58		38	44.I 30.6	41.2	22 59 23 06	
42 44	36.2 40.3 20.8 33.1	20 10		42	15.3 16.7 16.8	18.8 19.8	49 50	-7.0	42 44	47.7 47.2	45.9	51 53	-6.6	42 44	41.0	37.2 37.8 50.9	23 04 22 44	
46 48	28.7 32.9 22.8 26.8			44 46 48	17.8 17.1	19.9 19.2	51 49		46 48	. 51.0 46.2	48.5 43.7	47 54		46 48	41.0 53.8 59.2 57.0 48.3	57.2 54.9	35 38 52	
50 52	26.5 30.3 25.2 29.0	23 05 03		50 52	14.7 13.1	17.5 16.4 18.8	46 44		50 52	48.9 40.8	42.0 37.7	22 54 23 03		50 52	47.4	46.7 45.7	52 53 47	
30 23 34 65 85 85 85 85 85 85 85 85 85 85 85 85 85	26.9 30.1 23.7 27.3	23 00		54 56 58	15.1 15.2	18.2	47 47		40 42 44 46 48 50 52 54 56 58	44·5 49.1	42.0 46.0	22 58 51		40 42 44 46 48 50 52 54 56 58	50.9 56.2	50.2 54.5 50.8	47 39 45	
58	22.0 25.1	22 57		58	14.1	16.8	45		58	45.0	40.6	58		58 8 00	52.8 55.9	50.8. 51.1	45 42	-6.5

Observer-R. R. T.

Correction to local mean time is + 4h ois. 90° torsion = 13.8. Torsion head at oh oom read 87° and at 10h oom read 63°. Observer—R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Mond	lay, Jan	u <b>ary</b> :	18, 1904				Magne	t scale	erect	Tues	iay, Ja	nuary	19, 1904			Ma	gnet so	ale inv	erted
Chr'r time	Sca read Left	ings	East decli- nation	Temp.	Chr'r time	Sc read	-	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time		ale ings Right	East decli- nation	Temp C.
h m 8 oo	ď	ď	0 ,	6	h m	d	d	. ,	-6.8	h m	ď	d	0 ,	-1.8	h m	d	d	。 , 22 46	-2.2
02	51.9 50.1	53.8 51.8	22 40 37	0.01	10 00 02	51.7 51.2	53.0 53.1	22 39 39	-0.8	12 00 02	51.9 52.1	50.7 51.1	22 49 49 48	-1.0	14 00	54·5 54·4	52.9 53.1	46	_2.2
04 06	55·4 50.7	57·7 53·9	45 39		04 06	50.I 48.9	52.I 51.0	37 35		04 06	52.8 53.1	51.3 50.7	49		04 06	54·7 54·9	53.2 53.4	45 45	
08 01	49.9 50.5	53·3 53·0	39 38 38 36		08	47·3 49·9	48.3 52.4	32 37		08	52.7 52.4	51.2 50.7	49 49	!	08 10	54.9 54.7	53.6 53.2	45 45	
12 14	49.2 53.8	52.3 57.3	36 44	-9. I	12 14	52.7 50.1	54·3 52·3	41 37	-6.7	I2 I4	53·3 53·7	50.5 51.1	49 48	-r.8	12 14	54.6 54.3	53.I 53.2	45 46 46 46	-2.2
16 18	52.8	54. I	41		14 16 18	48.9 51.8	49. I	34 38	•••,	14 16 18	53.2	52.1	47	1.0	14 16 18	54.8 54.8	52.4	46 46	
20	50.9 52.0	54.1 53.8	39 40		20	51.2	52.I 51.3	37 36		20	52.I 52.2	50.9 50.9	49 49 48		20	54.8 54.7	52.2 52.2	46	
22 24	48.3 53.3	51.2 55.7	35 42		22 24	50.7 54.2	51.0 54.8	36 42		22 24	52.9 53.2	51.9 52.1	48		22 24	54.9 54.9	53.0 53.0	45 45	
24 26 28	51.0 48.3	52.3 50.3	42 38		24 26 28	49.2 51.3	50.4 52.8	35 38		24 26 28	52.9 52.2	51.9 51.5	47 48		24 26 28	54.8	53.0 53.0	45	
30	53.I	54.9	34 42 35	-8.9	30	51.9	52.6	39 36	-6.3	30	52.8	51.6	48	-2.0	30	54.9 54.8	53.7	45	-2.2
32 34	48.6 49.2	50.9 51.1	35 35		32 34	49.9 50.9	50.9 51.6	30 37 38		32 34	53.0	51.8 51.2	49 48 48 48 48 48		32 34	54.2 54.1	53.8 53.4	45 45 45 46 46 46	
34 36 38	51.5 56.0	52.9 57.6	39 46		34 36 38	50.9	52.1 53.8	38		34 36 38	53.9 53.8	50.9	48 48		34 36 38	54.2 54.4	53.2 53.3	46 46	
40	48.2	50.1 50.8	34		40	53.1	55·5 54.8	42		40	53.2	50.5			40	54.8	53.3	45 45	
42 44	47.9 51.2	54.I	34 39	-8.3	42 44	53.2 56.6	57.9	42 46	-6.2	42 44	53.1	51.2	48	-2.2	42 44	55.1 55.2	53·3 53·I	45	-2.2
44 46 48	51.9 52.9	53.1 54.3	39 41		44 46 48	55.I 52.2	56.4 54.7	44 41		46 48	54. I 53.9		48 48		44 46 48	55.7 55.6	52.9 53.1	45 45	
50 52	51.0 52.0	52.0 52.5	38 38		50	52.1 51.0	54·5 53·9	40 39		44 46 48 50 52 54 56 58	53.1 53.1	50.9	48		50 52	55·9 55·7	53.0 52.8	45 45	
5 <u>4</u>	51.9	52.9	39 38		50 52 54 56	50.9	53.9	39		54	53.3	51.7	48		54 56	55.2	52.9	45	
54 56 58	50.7	52.3 51.9	38		58	51.9 52.2	52.5 52.9	39 39		50	53·3 53.2		49 48 48 48 48 48 48 48 48 48 48 48 48 48		58	55.2 55.2	52.9 53.2	45 45	
9 00	51.4 52.1	53.1 52.9	37 39 39	-8.0	11 00 02	52.0 51.4	52.9 53.2	39 39	-6.0	13 00 02	53.2 53.9		48 48	-2.2	15 00 02	55.3 55.2	53·3 53.1	45 45	-2.2
04	52.7	54. I	41	1	04 06	53.I	53.9	40		04	54.0	51.1			04 06.4	55.9	52.8	45	
o6 o8	53.1 51.0	55.0 53.1	42 38		08	52.6 52.8	54.2 54.3	41 41		o8	54.3 54.1	51.8	47 47		08	55.8	52.9 52.8	45 45	
10 12	51.3 50.7	54·3 53·3	40 38	•	I0 I2	52.3 52.2	54·7 54·3	4I 40		10 12	54·3 54·3		47 47		I0 I2	55.7 55.8	52.9 52.9	45 45	
14	50.8	54.0	39	-7.7	14 16	52.0 51.9		40 42	-5.9	14 16	53·9 53·3	52.2	47	-2.2	14 16	55.2 55.2	53.2 53.1	45	-2.3
18 18	51.1	53·5 53·4	39 39		18	51.6	55.1	40		18	54.0	52.0	47		18	55.I	53.3 53.8	45 45 45	
20 22	51.7 50.9	53·3 52.1	39 38		20 22	51.9	55.6 55.0	4I 40		20	54. I 54. I	51.9	47		20 22	54.8 54.9	53.9	45 45	
24 26	52.0	53.0	39		24 26	51.5 51.1 50.8	55.2 53.9	40 39		24 26	54.1 54.0	51.7 51.7	47 47		24 26	55.0 55.0	53.8 53.9 53.9	45 45	
28	51.9 51.6	53.0 52.2	39 38 40 38		28	50.8	53.9	39	_ , 0	28	54.2	52.I	47		28	55.I	53.9	45	
30 32	52.3 51.2	54.I 51.9	40 38	-7.2	30 32	50.1 50.2	53.2 53.8	39 38 38 38	-5.8	30 32	54.2 54.7	52.2 52.1		-2.2	30 32	55.1 55.4 56.1	53.2 52.5	45 45 45	-2.3
34	52.7	53.3	40		34 36 38	50.2 50.6	53·7 54.0	38 39		34	55.0 54.8	52.2 52.8	46 46		34 36 38	50. I	52.8	45 45 45 45	
34 36 38	52.3 50.3	52.3 $51.2$	39 36		38	50.3	54. I	39		38	1 54.3	52.9	46		38	56.2 56.2	52.7	45	
40	48.7 52.6	49.0 53.8	33 40		40 42	50.7 51.7	55.0	39 40		40	54.2 54.0	52.7	46		40 42	56.2 56.1	52.7 52.9	45 45	
44	48.9	49.7	34 38	-7.0	44	52.I 51.8	55.2 54.8	41 40	-5.6	44	54.2 54.7	52.9	46 45	-2.2	44 46 48	56.0 56.2	53.0	45 45 45 45	-2.
48 48	51.0 52.2	52.0 53.9	40		48	52.4 51.8	55.0	41		48	54.9	53. I	45		48	56. I	52.0	45	
42 44 46 48 50 52 54 56 58	48.2 50.1	50.1 51.7	40 34 37		42 44 46 48 50 52 54 55 58	52.2	54.5	40 40		32 34 36 38 40 42 44 46 48 50 52 54 556 58	54.2 54.1	52. I	40		50 52	55.9 55.8 55.8	53·5 53·9	44 44	
5 <u>4</u>	53.2	54. I	41 38		54	52.7 52.3	54.8 56.1	4I 42		54 56	54.5	52.7			54 56 58	55.8	53.9 53.8 53.8	44 44 44	
50 58	51.7 49.3	52.2 50.1	35			52.2	.56.I	42		58	54·9 54·7	52.9			58	55.7	53.7 53.2	44	
					12 00	51.1	53.1	39	-5.3						16 00	55.1	53.2	45	-2.

Correction to local mean time is + 3m 10s. 90° torsion = 12.'8. Torsion head at 10h 00m, January 17, read 63° and at 13h 10m, January 18, read 60°.

Observer—R. R. T.

Correction to local mean time is +2m 35s. Torsion head at 11h 45m read 60° and at the end read the same. Observer—R. R. T.

Wedr	esday, Ja	nua	ry 20, I	904			Magne	et scale	erect	Wed	nesday,	Janua	ry 20, 1	904			Magne	et scale	erect
Chr'r time	Scale reading Left Ri	gs	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	
ım	d	d	0 /	0	h m	d	ď	· ,	0	h m	d	d	۰,	•	h m	d	, d	0 ,	•
00		1.6	22 38 38 38	-6.5	2 00 02	40.6 40.6	40.8 40.8	22 39 39	-5.0	4 00 02	42.0 40.7	42.2 40.7	22 4I 39	-4.3	6 00	41.5 42.0	41.6 42.2	22 40 41	-3.8
04 06	38.9 4	0.8	38 37		04 06	40.4	40.6 40.7	39 39		04 06	40.3	40.5 40.8	39 38 30		04 06	41.3	41.0	40 39	
08	38.4 4	0.5	37		08	40.3	40.7 40.6	39		08	40.4	40.4 40.2	39 38 38 38 38 38		08 10	39.8	40.2 40.6	39 38 38	
12	38.4 4	0.3	37 37		12	40. I	40.4	39 38		12	40.3	40.3	38	4.0	12 14	39.3	39.6 39.8	37 37	-3.9
14 16	38.9 4	0.3	37 37	-6.2	14 16	39·4 39·3	39.6 39.3	37 37	-5.0	14 16	39.7	39.9 39.9	38	-4.2	16 18	39.2	39.5	37	3.9
18 20		0.3 2.5	37 39		18 20	39.7 30.6	40.0 40.3	37 38 38		18 20	40.6 40.6	40.9 40.9	39 39		20	40.4	40.6 41.1	39 39	
22 24		2.6 2.3	39 39		22 24 26	40.5	40.5 40.6	39 39		22 24	41.1	41.3 41.3	40 40		22 24	41.2	41.4 40.6	40 38	
24 26 28	40.5 4	1.3	39 39		26 28	41.3 42.0	41.6 42.0	40 41		26 28	41.6	41.6 41.7	40 41	-4.2	26 28	40.9 38.3	41.0 39.9	39 37	
30 32	40.5 4	I.2 I.I	39 39	-5.7	30 32	41.9 41.8	41.9 41.9	41 41	-4.9	30 32	41.6	41.6 42.0	40 41		30 32	37.I 4I.9	37.6 42.0	34 41	4.0
34 36 38	40.4 4	I.O I.O	39 39		34 36 38	41.6 41.0	41.6 41.2	40 40		34 36 38	41.8 40.6	41.8 40.6	41 39		34 36	43·3 43·4	44.I 44.0	44	
38	40.5 4	1.0 0.6	39 38		38 40	40.8	4I.0 4I.0	39 39		38 40	41.0	4I.0 4I.9	39 41		38 40	40.0	40.9 41.5	44 38	
40 42	40.5 40	0.9	39 39		42	41.1	4I.I 40.8	40	-4.7	42	40.6	40.8		4.7	42	39.9 37.6	40.7 37.9	40 38 34	-4.0
44 46 48	40.5 40	1.I 0.9	39	-5.6	44 46	40.8 40.6	40.б	39 39	-4.7	44 46 48 50 52	39.7 39.9	39.8	39 37 38 38	-4.I	44 46 48	37.4 37.8	37.8	34	4.0
48 50 52	40.2 4	o.6 o.6	39 38 38 38 38 38		48 50	4I.I 4I.2	41.1 41.3	40 40		48 50	39.9 40.8	40.0 41.0	39		50	39.0	38.1 39.6	35 37 38 39 37 38 38	
52 54		o.6 o.5	38 38	,	52 54	40.5 39.6	40.5 39.8	39 37		52 54	40.8 39.6	41.0 39.8	39 37		52 54 56	40.0	40.5 40.9	38	
54 56 58		0.3	38 39		54 56 58	39.7 39.3	39·7 39·4	37 37		54 56 58	40.6	40.9 40.9	39 39		56 58	39.5	39·5 40·3	37 38	
00	41.0 4	1.3	40 39	-5.5	3 00	39.6 39.9	39.6 40.0	37 38	-4.6	5 00	4I.0 4I.3	4I.0 4I.3	39 40	-4.0	7 00 02	39.9 40.6	40.3 41.5		-4.0
04 06	40.5 4	0.9 0.6	39 38 38		04 06	40.0 39.9	40.0 40.0	37 38 38 38 38 38		04 06	41.0	41.0	39		04 06	40.8 39.9	41.2 40.1	39 39 38 36 38	
08 10	40.3 4	0.6	38		08	40.3	40.6 41.0	38		08	40.0	40.4	39 38 38		08	38.9	39.I 40.0	36 38	
12	40.3 4	0.6	39 38		12	40.2	40.3	39 38	ا ہے ا	12	41.0	41.0	39		12	37.0	37.8	34	-4.0
14 16	40.7 4	0.8	39 39	-5.4	14	40.9 41.0	40.9 41.0	39 39 38	-4.5	16	40.5	40.5	30 38	-4.0	14 16	37.0 37.5	37.I 38.I	33 34 38	74.0
18 20	40.4 4	0.6	39 39		18 20	40.2 39.6	40.2 39.6	35 37 38		18 20	40.4	40.7 42.0	39 41	13	18 20	40.0	40.8 42.3	41	
22 24		о.б о.б	39 39		22 24	40.0 39.4	40.0 39.6	38		22 24	40.8	4I.0 40.I	39 38	\$1 2 4	22 24	38.0 39.0	38.2 39.8	35 37	
26 28	40.1 4	0.3	38 38		26 28	39.9 40.5 39.8	40.0 40.5	38		26 28	39.2 39.7	39.6 40.1	37 38 39	7	26 28	39.3 40.5	40.I 41.2	37 39	
30	40.I 4	0.3	38 38 38 38	-5.2	30 32	39.8 40.1	40.0 40.1	39 38 38	-4.5	30 32	40.9 41.0	40.9 41.3	39 40	-3.8	30 32	39.6	40.3 41.0	39 38 39	-4.0
34 36	39.8 3	9.9 9.6	38 37		34 36	40.4 40.3	40.6 40.3	39 38 38		34 36 38	4I.5 4I.2	41.6 41.6	40 40		34	40.7 38.8 30.0	39.6 39.7	37	
38	39.6 3	9.6 9.6	37		38 40	39.9 39.7	39.9 39.7	38 37		38 40	40.3 41.1	40.5 41.2	38		37 38 40	39.0 38.6	39.3 39.0	37 36 36	13
42	39.7 3	9.9	38	_= 2	42	39.6 39.6	39.6	37	_4 4	42	40.2	40.3	40 38 38	_2 S	42	38.4 38.0	38.6 39.8	35 37 39	-4.0
32 34 36 38 40 44 46 48 55 55 55 58	39.6 3	9.7	37 37 38 37 37 38 38 38	-5.2	44 46 48	39.9	39.7 39.9	37 38 38 38 38 38	-4.4	44 46 48 50 52 54 56 58	40.8	41.0	39	-3.8	44 46 48	39.5 40.5 37.8	39.8 41.3 38.8	39	1.
40 50	40.I 4	0.0	38		50	40.2 39.9	40.3	38		50	40.8	41.0 41.0	39 39		50	38.8	39∙3	35 36 38	
52 54	40.6 4	0.3 0.6	39		52 54	39.9 40.0	40.0 40.7			52 54	39.7 40.3	39.8 40.7	37 39		52 54	39.5 38.8	40.4 39.7	37	1
56 58		I.3	40 39		54 56 58	4I.3 4I.9	41.6 42.0	40 41		56 58	41.1 40.7	41.3 40.9	40 <b>3</b> 9		54 56 58	37.6 42.0	39.0 43.I	35 42	

Observer-W. J. P.

Observers—W. J. P. and J. V., who alternated from 7h 50m to 7h 56m.

Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d	d	. ,	•	h m	d	d	• ,	0	h m	đ	d	. ,	0	h m	d	d	۰,	•
00 02	40.7 40.0	41.2 40.2	22 39 38	-3.9	IO 00 02	39·3 38·9	40.3 40.1	22 38 37	-3.3	12 00 02	39.2 39.3	39.2 39.7	22 37 37	-3.1	14 00 02	35·4 36.0	36.0 36.0	22 3I 32	-3.0
04 06	37.9 38.4	38.7 38.9	35 36		04 06	39.0	40.3 40.1	37 37		04 06	40.0 39.8	40.8 40.1	37 38 38 38 38 38 38 38 38 38		04	36.2 36.5	36.2 36.5	32 32	
01 80	37·5 38.0	37.8 38.5	34 35		08	38.9 38.8	40.0 39.4	37 36		08	39.8 40.2	39.8 40.2	38 38		08		36.1	32 33	
12 14	39.0 39.0	39·4 40.0	37 37	-3.8	12 14 16	38.2 38.2	39.2 39.6	36 36	-3.3	12 14 16	40.2 40.2	40.2 40.3	38 38	-3.0	I2 I4	37.1 36.3 36.6	37.8 37.0	34 32	-3.0
16 18	43·5 38.8	44.8 38.9	44 36		16 18	39.0 39.1	40.2 40.2	37 37		18 16	39.8 39.9	40.I 40.2	38 38		16	36.6 36.9 36.8	37.0 37.2	33 33	
20 22	31.5 40.3	32.0 41.8	25 39		20 22	38.9 38.8	40.0 40.0	37 2 37		20 22	39.9 39.4	40.I 39.9	38 37		20 22	36.8	37.0 37.6	33 34	
24 26	40.3 37.4	41.0 38.0	39		24 26	39.2 39.0	40.0 40.0	n 37		24 26	39·3 39·5	40.0 40.0	37 37		24 26	35.9 36.0	36.2 36.6	32 32	
28 30	38.2 40.0	39.0 40.5	34 36 38 36	-3.6	28 30	39·5 39·5	40.4	37 38 38	-3.5	28 30	39.4 39.0	39.9 39.7	37 37 38	-3.0	28 30	37.I 37.0	37.6 37.5	34 33	-2.9
32 34	38.4 37.2	39.0 37.9			32	39.0 39.5	40.0	37 38		32	39.4 39.2	40.7 39.7	38 37		32 34	35.6 35.9	36.0 36.3	31 32	
34 36 38	38.0 38.6	37.9 38.8 39.2	34 35 36 38		34 36 38	39.0 38.8	40.0 39.6	37		34 36 38	39.4 39.5	39·4 39·5	37 37		34 36 38	37.0 36.7	37·4 37·2	33 33	
40 42	39.6 39.2	40.8 40.0	38 37		40 42	38.1 38.7	39. I 39. 7	37 36 37		40 42	39.1 39.2	39.2 39.4	37 37		40 42	35.6 36.1	36.2 36.8	31 32	
	38.4 39.2	39.9 40.2	37 36 37	-3.7	44 46 48	38.3 39.4	39.7 41.6	36	-3.4	44 46 48	39.2 39.2	39.2 39.2	37 37	-3.0	44	36.9 37.0	37·4 37·5	33 33	-2.7
48 50	38.8 38.0	39.2 38.6	37 36 35		50	39·3 38·7	40.3 <b>3</b> 9.8	39 38 37		50	39.2 39.0	39.4 39.2	37 37		46 48 50	37.0 36.8	37.6 37.3	34 33	
52 54	38.8	39.3 39.1	36 36		52	39.2 38.8	40.3 39.7	37 37		52	39.1 39.3	39.I 39.3	37		50 52 54 56 58	37·7 36.3	38.0 36.7	34 32	
44 46 48 50 52 54 56 58	39.8 38.0	40.7 39.2	35 36 36 38 38		54 56 58	39.8	40.4 39.8	37 37		54 56 58	38.5 38.3	39.0 39.0	37 36 36		56 58	36.2 36.4	36.7 36.7	32 32	
00	37·9 30·4	38. I 30.8	35 37	-3.7	II 00 02	39.0 39.1	39·5 39·6	37 37	-3.4	13 00 02	38.2 39.0	38.9 39.9	36	-2.9	15 00 02	36.5 36.2	37.0 36.7	33 32	-2.5
04 06	38.3	38.3 .4a	35		04 06	39.4 39.1	39.8 39.6	37 37		04 06	38.7 39.2	39·3 40.0	37 36 37		04 06	35·4 37·3	35.8 37.3	31 34	
08	39.7 39.0	40.0 39.8	35 38 37		08	36.9 38.1	39·3 39·3	35 36		08 10	30.0	39.8 39.0	37 36		08 10	36	.0a .5a	32 37	
I2 I4	37.9 37.9	38.2 38.2	35 35	-3.8	12 14	39.2 40.0	39.7 40.4	37 38	-3.3	12 14	38.5 38.6 38.5	39.1 39.0	36 36	-2.9	I2 I4	38.6 39.0	38.8 39.0	36 <b>3</b> 6	-2.
16 18	39.0 39.0	39.7 40.0	37		16 18	38.7 38.6	39.3 38.8	36 36		16 18	38.7 38.5		36 36		16	39.2 39.1	39.2 39.3	37 37	
20 22	38.4 38.4	39. I 39. 6	37 36 36		20 22	38.8	39·3 39·5	36 37		20 22	38 37.8	.20	35 35		20 22	39.2 35.0	39.7 35.8	37 31	
24 26	37.9 37.8	38.8 39.0	35 35		24 26	30.6	40.0 39.9	38		24 26	39.2	40.0	37 37		24 26	35.0 34.4	35.3	30 29	
28	39.0 38.5	40. I 39.8	37 37 38	-3.8	26 28 30	39.8 39.7 39.8 39.8	40.0 39.8	38 38 38 38	-3.3	28 30	37·3 38.0	39.5 37.9 38.4 38.8 38.1	34	-3.0	28	34·4 35·3 35·5 34.6	35.0 36.0 36.0	31 31	-2.
32	30.3	40.4 40.1	38 37		32	39.8	40.1 39.8	38 37		32	38.0 37.5	38.8 38.1	35 35 34		30 32 34	34.2	35.I 34.7	30 29	
36 38	39.0 38.4 37.8	39.9 39.8	36 36		34 36 38	39·5 39·5 39·5	39·5 39·5	37 37		34 36 38	37.0 37.9	37.6 38.0 38.0	34 34		36 38	35.0 34.9	34.7 35.8 35.9	31 31	
40	38.7	40.0	37		40 42	39.0 39.6	39.7 39.8	37 37		40	37·4 36.7	38.0 37.0	34		40 42	34.9 34.8	35·7 35·4	30 30	
44	39.3 39.0 39.8	40.4	37 36 36 37 38 37 38 36 35 36	-3.6	44 46 48	39.5 39.0	39.9 39.3	37 37	-3.2	42 44 46 48	38.8 37.3 38.0 37.5 37.0 37.9 37.4 36.7 35.8 35.8	36.5 36.3	33 32 32	-3.0	44 46	35.0	35·5 35·7	30 30	-2.
48	38.2	40.7 39.2	36 37		48	39.1 39.2	39·4 39·7	37		48 50	35.5	36. I	31		48 50	35·3 35.0	36.0	31	•
50 52	37.9 38.3 38.0	39.0 39.5	35 36		52	39.5	40.I	37 38		52	34.9 35.7 34.8 35.0	36.5 35.8	32 31		52 54	35.5 35.1	36.0	3I 3I	
28 30 32 34 56 86 42 44 56 86 56 55 55 55 55 55 55 55 55 55 55 55 55	38.0 37.1 39.0	39.2 38.1 40.0	30 34 37		50 52 54 56 58	39.0 39.4 39.8	39.2 40.0 39.8	37 37 38		50 52 54 56 58	35.0 35.0	35·5 35·5	30		34 36 8 42 44 46 48 55 2 54 55 58	35.1 35.9	36.0	31 31 32	

Observer—J. V.

Observers—J. V. and R. R. T., who alternated from 15h 52m to 16h 04m.

m 00 02		Right	decli- nation	Temp. C.	Chr'r time		ings Right	decli- nation	Temp. C.	Chr'r time		lings Right	decli- nation	Temp. C.	Chr'r time	1	lings Right	decli- nation	
	d	d	۰,	۰	h m	d	d	۰,		h m	d	ď	0 /	0	h m	đ	d	,0 /	0
	35·5 34.8	36.0 35.9	22 3I 30	-2.2	18 00	34.0 34.1	$35.5 \\ 35.6$	22 30 30	-1.6	20 00 02	26.2 27.0	27.8 28.1	22 17 18	-1.3	22 00 02	30. I 28. I	31.0 30.7	22 23 31	-2.
04 06	34.8	36.0 35.3	31 30		04 об	34. I 34. 9	35.8 36.2	30 31		04 06	27.2 26.1	28.3 27.0	18		04 06	27. I 31.3	29.7 33.9	20 26	
80	35.0	35.2	30		о8	35.8 36.8	37.0	.32		08	25.5	26.7	16		08	34.I	36.4	30	
10 12	35.2 35.4	35.8 35.9	31 31		10 12	36.6	37·3 37·0	33 33		10 12	24. I 23. 8	25.4 25.5	14 14		10 12	30.7 34.3	32.I 36.3	24 30	
14 16	35.2 36.0	35.7 36.6	31 32	-I.9	14 16	36.9 36.0	37.2 37.2	33 32	-1.6	14 16	24.5 23.7	26.2 25.2	15	-1.4	14 16	38.9 34.2	39.9 35.8	37 30	-2.
18	36.4	37.0	33		18	36. I	37.7	33		18	26.7	28.1	13 18		18	35.1	36.8	31	
20 22	35.2 36.2	35.7 36.4	31 32		20 22	35.8	36.8 37.0	32		20 22	28.2 29.1	29. I 30. 0	20 21		20 22	30.7 34.1	33.2 35.8	25	
24 26	36.0 34.9	36.8 35.8	32 31		24 26	35.8 35.7	37·5 37·3	32 32		24 26	30.9 30.1	32.1 30.8	24 23		24 26	33.8	36.0 36.1	30	
28	35.2	36. I	31	- 0	28	35.2	37.0	32		28	29.7	30.2	22	_	28	34.3	35.9	30	
30 32	34.9 34.8	35.8 35.0	30 30	-1.8	30 32	34.9 36.3	36.9 38.9	31	-1.6	30 32	29.9 30.6	30.9 31.7	23 24	-1.6	30 32	33.6	36. I 37.0	30 31	-2.
34 36	35.2 35.8	35.2 36.1	30 31		34 36	33.9 33.6	36.2 36.0	30 30		34 36	33.8 33.7	34·3 34·3	28 28		34 36	34.3	37.0 33.8	. 3I 28	
38	36.1	36.9	32		38	33.9	35.9	30		38	33.I	34.5	28		38	33.2	35.8	29	
40 42	36.1	36.9 36.8	32 32		40 42	34.I 37.5	36.9 39.8	31 36		40 42	33·3 33·5	$34.3 \\ 35.5$	28 . 29	i	40 42	32.2	33.8 34.4	27	
44 46 48	35.0 34.9	36.8 37.2	31 31	-1.7	44 46 48	33·5 33.0	35·5 34.6	29 28	~1.5	44 46 48	33.2 32.8	33.9	28 27	-1.8	44	35.I	37.8 36.8	32	-2.
48	35.3	37.8	32		48	32.2	33.9	27		48	32.1	34. I 33. 7	27 28		44 46 48	34.7 34.8	37.I	31	
50 52	35.6	37·7 36.9	32 31		50 52	32.0 31.2	33.3 $32.9$	26 25 26		50 52	33.I 33.6	34.6 34.3	28 28		50 52	37·5 35·9	39.0 37.2	· 35	
54 56	34.9 34.8	35·3 35·9	30 30		54 56	31.5 31.0	32.8 33.0	26 25		54 56	34. I 33.9	34.9 35.2	29 29		54 56	36.9 35.1	38.7	34	
58	34.7	35.9	30		58	30.9	32.3	25		58	32.9	34.8	28		58	34. I	37.9 36.5	32 30	
00 02	34.7	36. I 35.9	31 30	-I.7	19 00 02	30.7	32.2 32.1	24 24	-I.4	2I 00 02	32.I 32.2	34.7 $35.2$	27 28	-1.9	23. 00 02	32.5 36.1	35·4 38.7	28 34	-2.
04 06	33.9 34.1	35.9 36.3	30		04 06	29.3 28.7	31.9 31.6	23 22		04 06	32.6	35.3	28 28		04 06	. 38.0	40.I	34 36	
80	33.8	35.9	30 30 28		08	28.0	31.3	22		o8	32.3 33.0	35.4 35.0	28		08	41.9 41.2	43.8 43.9	42 42	
I0 I2	32.8 33.1	35.3 35.8			10 12	28.0 27.8	31.0 30.4	2I 2I		I0 I2	33.I 33.0	34.8 34.3	28 28	,	I0 I2	. 40.3 38.0	42.9	40 37	
14 16	32.8	35.0	29 28 28	-I.7	14 16	27.6	29.7	20 20	-I.3	14 16	33.9	34.9	29	-2.0	14	37.1	39.2	. 35	-3
18	32.6	35.1 35.0	28		18	27.7 28.7	29.5 30.2	21		18	34.0 34.2	35·7 35·9	30 30		16 18	36.9 37.8	39.5 40.2	35 36	
20 22	32.5	35.0 35.1	28 28		20 22	28.7 28.1	30.3 29.9	2I 2I		20 22	32.I 32.I	34.2 34.4	27 27		20 22	37.9 41.0	40.9 43.2	37 41	
24 26	33.2	35.0	29		24	28.2	29.2	20		24	31.1	34.0	. 26		24	41.2	43.3	41	
20 28	33.2 32.7 32.6	34.7 34.2	28 27		20 28	29. I 27. 9	29.1 28.0	19		20 28	31.8	34.6 34.4	27 26	,	26 28	38.3	40,3 41.2	37 39	
30 32	33.2	3/LX	27 27 28	-I.7	30 32	29.7 30.0	30.1 30.8	22 23	-I.2	30 32	30.1 31.8	33.8 34.9	25 27	-2.I	30 32	43. T	44,5	44	-3
34	34.2 34.6	35.8 36.3 36.6	30 31		34 36 38	29. I	30.I 28.9	22		34 36	31.8 28.8	33.8	27		34	39.0 38.5 38.0 37.8	40. I	38 37 36 36	
38	34.7	36.6	31		38	27.9 27.0	28.0	20 18		38	30.0	31.2 31.3 26.8	22 23 16		34 36 38	37.8	39,8 39,6	36	
40 42	35.0	36.8 36.3	31 31		40 42	26.9 26.8	27.9 26.8	18		40 42	25.2 26.0	26.8 27.3			40 42	36.2	38.0 40.0	33	
44	34.7 33.9	36.3 35.6	29 30	-I.7	42 44 46 48 50	25.9	26.5	17 16	-1.2	44	27. I	28.2	17	-2.2	44	36.2 37.5 37.8	39.9	33 36 36	-3.
48 48	34.I 34.2	35.8 36.1	30		48	25.9 22.8 22.8	24.2 24.0	I2 I2		44 46 48	27.4 27.1	28.2 28.1	19		44 46 48	39.9 40.2	42.0 41.9	39 39	
50 52	35·3 34·7	36.9 36.2	32 31		50 52	22.9 25.0	24.1 26.8	12 16		50	29. I 28. 7	29.8 29.2	2I 20		50 52	36.6	41.0	37 36	
32 34 36 38 42 44 46 46 52 54 56 58	34.2	36.5	30		52 54 56 58	24.7	25.8 26.0	15		50 52 54 56 58	29.7	30.3	22		5 <u>4</u>	35.8	40,2 39,9 40,8	34 36	1.
50 58	33.8	36.1 35.7	30		50 58	24.I 27.0	20.0 28.1	14 18		50 58	29.2 31.0	30.2 32.4	22 25		54 56 58	36.2 36.1	40.8 41.2	36 36	

Observer-R. R. T.

Correction to local mean time is — 2s.

Torsion head at oh oom read 40° and at the end read the same.

Observer-R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Thurs	day, Ja	anuary	21, 190	ŧ		Ma	gnet s	cale inv	erted	Satur	day, Ja	anuary	23, 190	4			Magne	t scale	erect
Chr'r time	Scaread	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sc read Left	ings	East decli- nation	
h m 6 00	d 48.9	d 44.8	0 ,	•	h m 18 00	d	d	0 ,	•	h m	d	d	0 /	•	h m	d	đ	0 /	0
02	50.4	45.7	22 31 30	-3⋅3	02	41.5 39.9	40.7 38.8	22 40 43	-2.3	20 00* 02	36.9 35.8	38. I 37. 6	22 32 31	-16.2	22 00 02	35·3 42.7	43.1 47.8	22 35 44	-13.9
04 06	47.8 48.1	43.1	34		04 06	40.I	38.9	43		04 06	35.9 36.3 36.8	37.2	31		04 06	41.0	49.8 52.8	45	
o8	47.3	44.2 44.3	32 33		08	40.9 41.9	39.9 41.1	42 40		08	36.8	37.6 38.0	31 32		08	43.0 55.1	62.4	22 49 2 <b>3</b> 06	
I0 I2	46.7 45.3	44.2 43.2	33 34 36		I0 I2	39.9	39.0 39.1	43		I0 I2	37.2 37.8	38.7	33		10 12*	42.2 38.7	53.8 61.3	22 49 23 44	
14	45.0	42.1	37	-3.3	14 16	40.I	39.2	43 43	-2.3	14 16	38.3	39.1 39.8	34 35	-16.o	14 16	28.3	42.6	21	-13.
16 18	46.9 47.2	44.7 44.5	33	!	16 18	42.9 45.7	42.2 44.8	43 38 34		16 18	38.0	39.8	34		16 18	28.6 22.8	47.3	25 19	1
20	46.0	43.5	33 35 38	1	20	45.2	44.0	35		20	38.9	39.7 40.1	35 36		20	34.8	45.9 44.1	27 06	
22	43.7	41.6 39.0	38 43		22	44.I 44.I	43·7 42·4	36 37		22	39.4	40.2	36 36		22	23.0 41.9	28. I 44.8		
24 26	39.9	38.8	43		24 26	44.8	44.0	35		24 26	39.2	40.0 39.8	35		24 26	30.0	33.0	33 15	
28 30	39.5 39.8	38.6 38.9	44	-3.0	28 30	42.6 43.1	41.2	39	-2.3	28	39.0 38.8 38.1	39.3	35 34	-15.3	28 30	21.9 9.7	25.3 10.3	23 02 22 4I	-13.
32	40.0	39.3	43	-3.0	32	42.9	42.2 42.3	39 38 38 38 38	-2.3	30 32	38.2	39. I 39. 0	34	-15.3	32	24.3	24.8	23 04	-13.
34 36 38	40.8 40.9	40.0 40.2	42 41		34 36 38	43.0		38		34 36 38	38.3 38.4	39.1	34		34 36*5	10.9 52.2	11.8	22 43	
<b>38</b>	41.3	40.7	41		38	43.0 44.0		37		38	38.0	38.5 38.5	34 34		38	55.6	59.9 61.3	40 43	
40 42	41.9	40.9 41.1	40		40 42	43.0		39		40 42	37·7 38.0	38.3	33		40	53.8 50.8	58.8	40	
44	41.9 42.7	41.9	40 38	-3.0	44	43.7 43.4	41.5 42.3	38	-2.4	44	38.6	38.9 38.6	34 34	-15.0	42 44	50.7	54.9 55.1	35 35	-13
44 46 48	41.8	40.8	40		44 46 48	42.9	42.0	38		46	37.8	39.3 39.8	34		44 46 48	50.8	54.8	35	
40 50	41.7	41.0 40.2	40 41		50	43.I 43.2	41.8	39 38 38 38 38 38		44 46 48 50 52	37·5 37·3	39.6	34 34		50	48.5 56.0	51.1 62.1	30 22 44	
50 52 54 56	43.3	41.9	38 38 38 38		52	43.8	42.9	37		52	37.3 37.8	39.9	34		50 52 54* 56 58	73.3	76.1 60.8	23 09	1
54 56	43.5	42.6 42.6	38		54 56	42.6 40.8	41.3 40.0	39 42		54 56 58	38.2	40.3 41.2	35 37		56	52.2 35.3	48. I	23 08	
58	44.0	42.7	37 39 38	- 0	58	44.3	43.7	36	2.6	58	40.3	41.8	37 38			23.2	36.6	22 50	
7 00 02	42.9 43.1	41.2 42.0	39	-2.8	19 00 02	45.7 43.7	44. I 43. I	35 37	-2.6	2I 00 02	40.3 40.1	41.I 41.7	37 38 36	-14.7	23 00 02	31.1 55.3	47.0 72.1	23 04 42	
04	43.3	43.1	37 36		04 06	42.7	42. I	37 38		04 06	38.7	40.4	36		04	31.2	46.2	03	
o6 o8	44.8	44.2 43.8	35		00	43.8	42.7 42.9	37		08	38.0 37.9	39.9 39.9	35 35		o6 o8	45.I 36.I	58. I 47. I	24 23 08	
10	45.9	45.0	34		10	42.9	42.3	37 38		IO	38.0	40.2	35 36		10	24.8	36.5	22 50	
12 14	46.7 46.0	45.2 45.5	33 33	-2.6	I2 I4	44.4 44.0		36 37	-2.8	I2 I4	38.6 38.2	40.9 41.1	36 36	-14.4	12 14	39.2 42.1	49.4 50.0	23 I2 23 I5	
16	47.9	47.2	30	]	16	44.9	44.0	35		16	38.3	40.6	35 36	-4.4	16	31.8	38.0	22 57	
18 20	49.0 49.1	48.1 48.2	29 29		18 20	43·9 43·5	42.3 41.4	37 38		18 20	38.9	40.4 40.9	30		18 20	11.5	19.9 1 <b>9</b> .0	27 27	
22	47.8	47.2	30		22		4I.I	39		22	40.3	42.0	37 38		22	16.8	21.4	22 33	
24 26	47.9 48.4	47.5	30	į	24 26	43.7	41.7	38		24 26	4I.0 40.2	42.0 42.1	39 38		24 26	38.0 39.1	39.8	23 04 05	
24 26 28 30 32 34 36 38 40 42	47.9	48.0 47.4	29 30		28	44.9 44.1		37		28	40.3	42.0	38 38		24 26 28	57.I	40.1 61.2	35 16	
30	47.9 47.2	46.9	30 31	-2.5	30	43.7	42.2	37 38 38 38	-3.0	30 32	40.5 37.3	42.I	38	-14.0	30 32	46. I	47.5	16 15	-13
32 . 34	47.I 47.3	46.0 46.0	32 32		32 34	43.7	41.9 42.0	38				37.2	30		34	44.8 40.3	47.I 41.3	23 07	'
36	47·3 45.8	44.3			34 36 38	42.0	4I.I	40		36.4	30.9	34.8	25		34 36 38	32.5	32.8	22 54	
<b>38</b>	45.8 46.0	44.2 44.9	34		38	42.2 43.0		40 38		40	24. I 27.8 26.2	31.4 37.8	17 25		40	24.9 22.3	26.0 23.2	42 38	
42	44.9	43.3	36		42	43.8	42.8	37 37		42	26.2	30.7	18	1	42	23.1	23.9	39	)
44 46 48	44.9 44.8 44.8	43.3	34 34 34 36 36 36	-2.4	40 42 44 46 48	44.I 44.0	43.1 43.8	37 36	-3.0	44	29.9 3I.9	38. I 37.9	27 28	-14.0	44 46 48	20.8	2I.I 2I.9	35 36	-13
40 48	44.2	42.8 42.9	37		48	45.1	42.5	36		48	26.1	34.I	21		48	25.9	27.I	44	<b>!</b>
50	43.2	42.9 41.8	37 38		50	43.9	42.9	37		50	32.8 29.0	39.3 36.1	30 25		50	30.0	31.0 34.2	50	)
52 E4	42.I 42.0	40.4 40.2	40 40		50 52 54 56	44.5 45.0	42.8 43.4	37 36		54	27.8	36.0	24		54	30.7	31.9	55 52	2
50 52 54 56 58	41.8	39.8	41		56	45.0	43.3	36		34 .4 38 40 42 44 46 48 50 2 54 558	32.2 36.3	40.2			52 54 56 58	23	.2b	39	3
58	42.3	40.9	40		58 20 00	44.9	43. I 43. O	36 35		50	30.3	45.7	30		50	22.0	23.0	38	2

Correction to local mean time is — 44s.

Torsion head at 15h 10m read 34° and at the end read the same.

Observer—R. R. T.

Correction to local mean time is — 27s. 90° torsion = 14'.

Torsion head at 19h 20m read 34° and at 9h 40m on the 24th read 28°.

Observers—R. R. T. and J. V., who alternated from 23h 50m to 24h 00m.

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hr'r ime	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	
m 00.5 02* 04 06 08	d d 46.8 44.9 41.5 40.7 35.2 35.0 Lost 34.8 30.6	22 41 48 22 58	0	h m 2 00 02 04 06 08	d 39.0 37.8 37.7 37.5 38.3	d 37.8 36.7 36.8 36.3 37.2	22 53 55 55 55 55 55	-11.6	h m 4 00 02.6 04 06* 08	d d Lost 70.0 71.0 70.8 71.2 40.1 44.0 42.1 46.0	22 55 56 54 57	-8.6	h m 6 00 02 04 06 08	d d 43.3 43.6 40.2 41.8 36.9 37.8 38.5 39.0 40.0 40.3	22 56 52 46 48 50	-8.0
10 12 14 16 18 20 22	30.1 27.0 36.2 34.2 41.1 40.9 44.8 43.9 46.1 45.6 45.2 44.3 46.0 45.7 48.1 47.9	23 08 22 58 49 43 41 43 41 38	-11.7	10 12 14 16 18 20 22 24	38.9 38.9 39.0 36.8 38.2 39.0 40.0	38.0 38.3 38.6 38.0 36.6 38.0 39.0 39.8	53 52 52 53 55 53 55 52 50	-11.2	10 12 14 16 18 20 22 24	42.5 45.9 42.7 45.0 44.0 46.0 44.5 46.1 44.8 46.1 44.5 45.0 44.5 45.9 45.0 46.2	57 56 58 59 59 58 58 22 59	-8.2	10 12 14 16 18 20 22 24	42.0 43.0 42.0 42.6 41.9 42.3 43.8 44.0 40.7 41.0 39.3 40.0 40.0 40.0 42.0 42.1	54 54 56 52 50 50	-8.
24 26 28 30 32 34 36 38	45.8 45.0 45.0 45.0 40.5 40.0 42.4 41.8 45.3 45.0 46.1 45.1 46.7 45.3	42 42 50 47 42 41 41	-11.8	26 28 30 32 34 36 38	40.7 41.5 41.0 41.0 41.5 42.7 42.9	40.2 40.8 40.2 40.5 40.8 42.0 42.3	50 48 49 49 48 46 46	-11.0	26 28 30 32 34 36 38	45.3 46.4 47.1 48.0 48.3 49.1 50.0 51.1 54.0 54.7 53.5 54.0 50.9 51.2	23 00 02 04 07 13 12 08	-8.2	26 28 30 32 34 36 38	43.0 43.0 42.3 42.3 41.0b 39.5a 42.3 42.3 41.7b 39.1b	54 55 54 52 50 54 53 49	-7.9
40 42 44 46 48 50 52	47.6 45.2 44.2 44.0 42.8 41.6 43.8 42.8 45.5 44.2 44.9 44.0 43.7 43.0	40 44 47 45 43 43 45	-11.8	40 42 44 46 48 50 52	42.5 41.8 42.4 43.0 42.5 41.5 40.8	42.0 41.4 42.0 43.0 42.5 41.5 40.8	47 48 47 46 46 48 49	-11.0	40 42 44 46 48 50 52	47.8 47.8 44.0 44.8 40.2 41.3 36.8 37.0 36.0 36.8 35.8 36.4 37.7 38.2	23 03 22 57 51 45 45 44 47	-8.2	40 42.5 44 46 48 50 52	35.7 35.7 37.5 38.5 39.3 40.1 40.0 41.0 40.0 39.0 35.4 36.6	44 47 50 51 50 44	-7.
54 56 58 00 02 04 06	44.I 43.8 44.0 42.9 42.I 4I.0 42.0 4I.3 43.0 42.2 42.5 4I.9 39.0b	44 45 48 48 46 47 52	-12.6	54 56 58 3 00 02 04 06	40.8 40.2 39.0 38.5 39.2 39.9	40.8 40.0 38.9 38.2 38.8 39.2	49 49 50 52 53 52 51	-10.6	54 56 58 5 00 02 04 06	39.0 40.0 44.7 44.7 48.3a 49.2 49.9 49.5 50.0 50.0 52.2 53.0 53.5	50 22 58 23 04 05 06 08	-8.2	54 56 58 7 00 02 04 06	35.2 35.7 38.0 39.0 39.1 40.0 36.8 37.0 36.3 37.0 39.0 39.2 40.7 41.1 41.5 42.0	43 48 50 45 45 49 52 53	<b>-</b> 7·
08 10 12 14 16 18	37.9 37.5 40.0 39.5 41.0 41.0 42.6 42.0 43.4 42.8 43.7 42.8 42.9 42.1	54 51 49 46 45 45 46	-12.1	08 10 12 14 16 18	40.0 39.8 39.8 39.7 39.9 39.0	39.0 36.8 39.0 38.7 38.8 38.9	51 51 51 51 51 52 51		08 10 12 14 16 18	52.3 52.9 50.2 51.1 47.9 48.8 45.1 46.0 43.5 44.2 42.1 42.9 41.8 42.2	10 07 23 03 22 59 56 54 54	-8.2	08 10 12 14 16 18	40.0 40.8 39.0 39.4 39.0 39.3 39.0 39.5 41.0 41.4 42.0 42.9 40.4 40.8	51 49 49 49 52 54 51	-7.
22 24 26 28 30 32 34 36 38	42.2 41.6 43.0 42.3 41.1 40.9 39.9 39.5 41.2 40.5 42.8 42.0 39.9 39.0 40.6 40.0	47 46 49 51 49 46 51 50	-12.1	22 24 26 28 30 32 34 36 38	39.8 39.9 39.0 39.2 39.2 40.0 40.7 40.3	38.8 38.7 37.8 38.2 37.8 38.9 39.7 39.3	51 53 52 52 51 50 50	<b>-9</b> .5	22 24 26 28 30 32 34 36 38	43.6 44.5 46.2 47.1 45.8 46.0 44.1 44.8 44.9 45.2 45.8 46.3 45.1 45.5 44.0 44.8	22 57 23 01 23 00 22 57 22 58 23 00 22 59 57	-8. ı	22 24 26 28 30 32 34 36 38	36.0 36.1 34.6 35.0 33.9 34.0 37.8 39.1 39.5 39.7 33.6 34.4 35.7 36.0 35.0 36.3	44 42 41 48 50 41 44	-7.
40 42 44 46 48	40.9 40.0 41.0 40.0 40.1 39.1 39.8 39.0 38.9 38.9 40.3 39.2 40.8 40.2 40.0 39.3 40.2 39.3	50 49 51 52 51 49 51	-12.0	38 40 42 44 46 48 50 52 54 56 58	41.0 40.5 39.6 38.9 38.9 39.0 38.7 38.4 39.6	40.0 39.5 38.7 38.0 37.9 37.7 37.7 39.0	49 50 52 53 53 53 53 53	-9.3	38 40 44 46 48 50 52 54 56 58	43.6 44.5 42.0 42.6 40.6 41.2 39.6 40.0 39.8 40.0 39.1 39.5 38.7 39.0 37.7 38.0 37.4 37.0	57 54 52 50 50 49 48 47 46	-8.1	38 42 446 48 50 54 55 58	42.0 <i>b</i> 34.5 <i>b</i> 31.2 31.2 30.0 30.1 29.2 29.9 30.2 31.0 29.3 <i>b</i> 28.8 29.2 30.4 31.0	54 42 36 35 34 36 34 33 36	-7.

Observer—J. V.

Correction to local mean time is — 33s. 90° torsion = 14'. Torsion head at 19h 25m on 23d read 34° and at 9h 40m read 28°. Observers—J. V. (W. J. P. axis observations).

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Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scread		East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
ı m	d d	• ,	•	h m	d	d	a ,	۰	h m	d d	0 ,	۰	h m	d	d	0 /	0
02 04 06	48.1 47.8 49.9 48.0 56.9 55.1 55.9 55.1	22 48 46 35 36	-12.2	10 00 02 04 06	56.6 56.0 59.8	56. I 53.7 58. I	22 35 37 31 37	-10.0	12 00 02 04 06	55.8 57.0 54.2 56.8 53.0 54.9 53.9 56.0	43 41	-11.7	02 04 06	54.2 54.1 53.9 56.1	56.1 55.1 54.9 57.5	23 43 42 41 45	-10.3
08 10 12	53.8 52.8 49.7 48.9 49.2 48.2	39 46 47		08 10	55.9 58.1 53.8 57.3	53.4 55.8 51.7 54.1	34 40 36		08 10 12	56.0 57.9 54.6 56.1 52.6 55.0	45 43 41		08 10 12	56.1 56.1 54.1	57.1 56.9 55.1	45 45 42	
14 16 18	52.5 51.8 55.1 53.9 55.0 54.0	41 38 38 39	-12.0	14 16 18	57.1 58.0 59.7	54.6 54.2 56.7	36 35 32	-10.0	14 16 18	51.7 53.2 54.0 56.8 53.4 56.8 52.8 55.3	43 43	-11.3	14 16 18	53.2 55.1 54.9	53.7 55.5 55.3	40 43 43	10.
20 22 24 26	53.9 53.0 52.2 51.8 51.1 50.9 56.1 54.8	39 42 43 36		20 22 24 26	58.1 56.9 57.7 57.2	56.1 55.0 55.9	34 35 34 35		20 22 24 26	52.8 55.3 49.0 52.2 53.8 57.3 57.2 60.2	35 43		20 22 24 26	54.6 55.0 56.0 58.0	55.1 55.5 56.8 58.6	42 43 45 48	
28 30 32	58.0 56.0 55.3 52.9 55.7 53.0	34 38 37	-11.8	28 30 32	58.2 58.0 57.9	55.5 56.8 56.1 57.0	33 34 34	-9.8	28 30 32	56.1 58.9 54.0 56.6 53.1 55.3	43 41	-11.1	28 30 32	57.8 55.9 52.8	58.5 56.9 54.8	47 45 41	-10.2
34 36 38	56.2 54.8 55.9 54.0 54.8 52.8	36 37 39		34 36 38	57.0 58.0 57.8	56.2 57.1 56.7	34 33 33 36		34 36 38 40	53.1 55.1 52.1 53.1 52.0 52.4 52.8 53.2	39 38		34 36 38 40	52.1 50.2 48.7 51.0	53.8 52.1 49.8	39 36 33 37	
40 42 44 46	54.9 53.0 55.0 53.7 53.9 52.9 59.7 55.9		-11.5	40 42 44 46 48	56.3 56.9 56.9 56.8	55.3 55.7 55.7 55.1	35 35	-9.7	42	53.1 53.8 53.3 54.1 54.1 55.2	40 40 42	-11.0	42 44 46 48	51.9 51.0 50.0	52.5 53.8 52.9 51.1	39 38 35	-10.
44 46 48 50 52 54 56 58	64.5 63.1 56.0 53.8 57.4 56.0	23 37 34		50	56.2 57.0 56.2	54.6 54.8 54.0	35 36 35 37 36		44 46 48 50 52 54 56 58	52.7 54.5 52.0 53.2 53.2 53.8	38 40		48 50 52 54 56	50.0 50.0 50.3 51.0	51.3 50.5 50.9 51.6	35 35 35 37	
54 56 58 9 00	57.0 55.0 52.9 50.3 51.3 49.0 56.9 55.2	42 45	-11.2	52 54 56 58 11 00	56.5 55.9 55.9 56.9	54.2 54.1 53.8 55.2	37 37	-9.4	54 56 58 13 00	53.6 54.0 54.5 55.1 56.2 56.8 56.0 56.8	42	-10.9	56 58 15 00	51.0 51.0 49.6 50.0	51.6 49.9 50.0	37 37 34 34	
02 04 06	59.7 58.1 55.8 55.1 55.1 54.1	31 36 37		02 04 06	56.3 57.3 59.0	54.8 55.8 57.7	36 34 32		02 04 06 08	55.8 56.7 55.8 57.0 56.1 57.8 56.8 58.3	44 45 45		02 04 06 08	50.0 49.0 48.9 48.7	50.9 50.2 50.5 50.8	35 34 34	
08 10 12 14	53.1 52.4 53.9 52.9 54.6 53.9 53.8 53.0	39 38		08 10 12 14.4	57.8 57.0 56.1 68.3	55.0 54.2	37	-9.2	10 12 14	56.2 57.8 55.8 57.1 55.7 56.5	3 45 45		10 12 14	48.9 50.1 51.3	51.1 52.4	34 34 36 38	
16 18 20	54.I 52.5 56.0 54.I 55.2 53.3	39 37		16 18 20	68.6 58.1 59.2	67.1 57.4 58.9	33 30		16 18 20	55.2 57.1 55.1 57.0 54.7 56.8	3 44 3 44		16 18 20	52.0 52.1 53.2	54.8 55.2	40 40 41	
22 24 26	53.6 52.0 54.9 53.2 53.2 51.8	40 38 41		22 24 26 28	60.2 61.8 60.0	60.3 58.1	27 30		22 24 26 28	55.3 57.2 55.6 57.3 55.7 57.3 55.0 57.0 54.1 57.2 56.0 58.8	3 45 2 45		22 24 26 28	53.9 54.3 54.1	55. T	42 42 41 42	
28 30 32	54.2 52.6 54.2 53.1 54.3 54.1 54.3 54.3	39 39 38 38	-10.5	30 32.3	59.9 60.0 59.8	58.1 56.2	30	-9.2	30 32	55.0 57.0 54.1 57.2 56.0 58.8 57.0 59.0	3   46	-10.8	30 32	54.1 54.8 55.4 55.1 56.8 56.7	55.9 56.8 57.8	1 40	-10.
34 36 38 40	54.1 53.7 55.8 54.7 54.7 53.9	38 36 38		36 38 40	59.7 60.5 62.3 60.2	59·7 57·5	30 27 31		36 38 40	57.0 59.0 56.3 58.9 56.2 59. 56.7 59. 56.2 58.9	46 1 46 3 47		34 36 38 40	57.1	57.9	46 46 46	
42	55.4 54.7 52.9 52.0 55.8 54.0	37 41 37	-10.3	34.4 36 38 40 42 44 46 8 50 2 54 55 55 58	58.9 58.8 58.5	57.3 58.0 58.0	32	-9.2	34 36 38 40 42 44 46 50 52 54 56 58	56.2 58. 56.2 58. 57.0 58. 56.2 57. 55.8 56. 55.0 56.	9   47 3   46	-10.8	42 44 46 48	57.7 58.1 58.1 56.2	59.0 58.8	48	-10
44 46 48 50 54 56 58	53.2 52.3 54.0 53.0 54.3 53.6	39 38		50 52 54	57.2 58.0 57.5 58.2	56.9 57.1 56.8 57.1	33 34		50 52 54	53.9 55.	0 43 1 42 0 41		50 52 54 56 58	57.7 59.8 61.0	61.3 63.1 64.6	50	)
54 56 58	55.9 55.2 54.3 53.8 55.0 54.2	38 38		56 58 12 00	50.9	56.2	34 30		56 58	53·3 54·5 54·1 55·	3 41		56 58 16 00	60.1	63.7 60.8	48	3 3 3 –10

Correction to local mean time is — Im IIs. Torsion head read 28° at beginning and ending. Observer—R. R. T. Correction to local mean time is — 1m 25s.

Torsion head at 11h 40m read 35° and at 16h 30m read the same.

Observer—R. R. T.

Wedr	nesday, Janua	ry 27, I	904		Ma	gnet s	cale inv	erted	Wedi	nesday	Januar	ry <b>27,</b> 19	004		Ma	gnet s	cale inv	rerted
hr'r ime	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	
m 000	d d 48.9 47.9	° '	-16.3	h m	d 49.8	d 47·4	。 , 22 43	°	h m	d 49·3	d 47.9	。 , 22 43	°	h m 6 00	d 48.2	d 45.9	° ,	-13.0
02 04	48.9 48.8 49.2 48.1	42 43		02 04 06	50.0 49.9	47·3 47·2	43 43	20.5	02 04	49.1 48.9	48.1 48.2	43 43	13.0	02 04	48.3 50.2	46.7 48.2	44 42	-13.0
06 08 10	49.9 48.2 50.3 49.2 51.0 49.3	42 41 40		08	50.0 49.9 49.8	47.5 47.5 47.6	42 42 42		06 08 10	49.2 49.1 49.8	45·3 45·4 46.2	45 45 44		06 08 10	47.9 46.1 48.4	45.7 44.2 46.9	45 48 44	
12 14	50.8 49.3 50.4 49.1	40 41	-15.9	12 14	49.7	47.2 47.2	43 43	-13.2	12 14	50. I 49.8	46.9 46.7	43 43	-12.9	12 14	48.3 48.2	46.6 46.2	44 44 45	-13.0
16 18 20	50.7 49.0 50.4 48.7 50.3 47.8	4I 4I 42		16 18 20	49.7	47.I 47.I	43 43		16	49.1 49.2	46.8 47.0	44 43		16 18	50.0	48.2 48.0	42 43	
22 24 26	50.3 48.0 50.7 48.1	42 41		22 24	49.9 49.7 49.1	47.0 46.8 46.3	43 43 44		20 22 24 26	48.1 47.9 47.9	46.6 45.9 45.9	45 45 45		20 22 24	46.3 48.5 48.6	44.9 47.3 42.5	47 44 47	
26 28 30	50.3 48.9 50.2 47.8 49.9 47.3	41 42 43	-15.3	26 28 30	48.8 48.7 48.5	46.7 47.1	44 44	72.0	28	48.3 48.2 48.0	46.3 46.2	45 45		26 28	49.2 50.3	47.7 48.9	43	
32	49.1 47.7 48.8 47.6	43 43	13.3	32 34 36	48.9 49.2	47·5 47·5 47·2	44 43 43	-13.0	30 32 34	49.1 48.9	46.2 46.1 45.5	45 44 45	-13.0	30 32 34	46.3 40.9 44.0	44·3 39·7 43·7	41 48 56 50	-13.0
34 36 38 40	48.8 47.3 48.7 47.9 48.9 48.2	44 43 43		36 38 40	49.2 49.1	47.6 47.7	43 43		34 36 38	48.9 49.2 48.8	46.1 46.5	45 44		34 36 38	49.2 49.8	48.9 47.3	42 43	
42	49.2 48.5 49.4 48.9	42 42		42 44 46	49.1 48.8 48.7	47.9 47.6 47.5	43 43 43	-13.0	40 42 44	48.8	46.2 46.7 46.7	44 44 45	-13.0	40 42 44	49.8 47.9 45.9	47.9 45.0 43.8	42 46 48	-13.0
44 46 48 50	50.0 49.2 50.8 49.0 50.7 49.0	41 40 41	-15.0	46 48 50	49.0 49.1 49.8	47.I 47.2	44 43		42 44 46 48 50 52 54 56 58	47.8 47.8	46.3 46.3	45 45		44 46 48	52.0 53.0	49.9 49.9	39 38	
52 54 56	50.3 49.0 50.7 48.9	4I 4I		52 54 56	50.0	47.5 47.9 48.3	43 42 41		50 52 54	47.9 49.0 50.1	45.9 46.8 47.8	45 44 42		50 52 54	52.2 45.4 42.0	49.0 44.0 41.3	40 49 54	
56 58 : 00	50.2 48.7 49.9 48.0 49.8 47.9	41 42 42	-14.7	56 58 3 00	51.0 51.0 51.0	49.0 49.2 49.2	40 40 40	-13.0		49.7 48.9	46.8 46.3	43 44		54 56 58	46.4 50.6	44.8 48.0	47 41	
02 04	49.4 48.4 49.5 48.4	42 42	14.7	02 04	50.8	48.9 48.9	4I 4I	-13.0	5 00 02 04 06	49.1 48.8 48.3	46.9 47.2 47.5	44 44 44	-13.0	7 00 02 04	46.7 47.8 49.9	44.8 45.2 47.9	47 46 42	-13.0
08 10	49.3 48.3 49.4 48.2 49.1 48.2	42 42 43		06 08 10	50.7 50.4 50.4	48.5 48.3 48.4	4I 4I 4I		08	48.7 49.0	47·3 47·2	44 43		об 08	47·5 46.7	45.0 43.6	42 46 48 46	
12 14	48.9 48.2 48.8 48.0	43 43	~14.3	12 14	50.2 50.1	48.3 48.5	42 41	-13.0	10 12 14	48.1 48.2 47.8	46.6 46.9 46.7	45 44 45	-13.0	10 12 14	47.8 49.3 53.1	45.2 46.8 50.7	40 44 37	
16 18 20	49.I 47.3 49.I 47.8 49.2 47.3	43 43 43		16 18 20	50.5 51.0 50.3	48.9 49.2 49.1	41 40 41		16 18 20	48.I 49.I	47.2 48.1	44 43		16 18	49.9 46.9	47.8 44.8	42 47	
22 24	49.2 47.2 49.7 47.4	43 43		22 24	50.7 50.2	49.1 48.8	40 41		22 24	48.5 47.9 48.2	47.8 47.0 47.2	43 44 44		20 22 24	48.0 44.7 44.2	46.6 42.8 42.2	45 50 51	
20 28 30	49.4 47.2 49.0 46.9 48.8 46.9 48.8 46.9	43 44 44	-14.0	26 28 30	49.8 49.3	48.2 48.0 47.8	42 43 43	-13.0	26 28	48.2 47.7 47.7 47.9 48.3 49.2 48.1	47.2 46.6 46.0	44	70.0	26 28	45.8	43.0 45.1	49 46 46	-13.0
32	48.9 46.9	44 44		32	49.3 49.5 49.9	47.2 47.2	43 43	25.0	32 34	47.7 47.9 48.3	45.8 46.7	45 45 45 44	-13.0	30 32 34	47.3 47.9 47.8 48.1	45.6 46.0 46.1	45	-13.0
34 36 38 40	49.0 47.2 49.3 47.3 49.3 47.7	43 43 43		34 36 38 40	50.0 50.3 50.4	47.1 47.0 47.3	43 43 42		36 38	49.2 48.1 48.0	47.1 45.9 45.9	43 45 45		34 36 38	45.I 40.I	42.2 38.2	45 50 57	
40 42 44	49.3 47.9	43 43 42	-13.8	40 42 44 46 48	50.0	47.0 46.9	43 43	-13.0	42 44	47.9	45.9 46.2 47.9	45 45 43	-13.0	40 42 44	44.I 46.I 45.0	42.2 43.9 43.9	51 48 49	-I2.0
44 46 48 50	49.9 47.8 50.8 47.2	42 42 42		48 50	49. I 48.8 48.8	47.3 47.2 47.9	43 44 43		46 48	49.7 47.9	47.7 46.4 46.5	42 45		46 48	50.8 44.9 48.1	43.9 49.8 43.8 40.9	40 40	
50 52 54 56 58	50.3 47.8	42 42		50 52 54 56 58	48.9 49.1	48.0 48.2	43 43		30 32 34 36 38 42 44 46 48 55 55 55 58	49.7 47.9 48.9 48.1 47.8 48.5 48.8	45.8 45.2	44 45 46		44 46 48 50 52 54 56 58	48.0 45.7	46.0 44.0	49 45 48	
58	50.1 47.6 49.9 47.5	42 42		50 58	49.0 49.0	48.0 48.0	43 43		56 58	48.5 48.8	46.1 46.1	45 44	Į.	56 58	43.9 47.3	42.3 46.9	51 45	i

Observer-R. R. T.

Observers—R. R. T. and J. V., who alternated from 7h 48m to 7h 58m.

Wedn	esday, Janua	ry 27, 19	904		Magnet s	cale inve	erted	Wedi	nesday, Janua	ry 27, 19	004	1	Magnet s	care inv	erted
hr'r ime	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Ten C.
m	d d	0 ,	•	h m	d d	0 ,	•	h m	d d	0 ,	0	h m	d d	. ,	ó
00	47.9 47.0	22 44	-12.6	10 00	53.0 52.0	22 36	-11.2	12 00 02	56.2 55.0 55.9 55.0	22 32	-11.0	I4 00 02	56.0 54.7 56.1 55.0	22 32 31	-II.
02 04	48.8 48.0 50.2 49.4	43 41		02 04	51.8 50.2 51.6 50.8	39 38 36		04	55.9 55.0 55.0 54.2	32		04	57.0 56.2	30	
об	44.7 44.0	49 46		06	53.0 52.0	36		06 08	56.4 55.3	31		06 08	58.1 57.0	29	
08 01	46.3 46.0 42.9b	40 52		08 10	52.2 51.8 53.0 52.4	37 36		10	56.0 55.0 55.0 54.8	32		10	59.0 57.8 59.0 57.8	27 27	
12	44.0 42.8	51		12	53.0 52.2	36		12	54.2 53.0	35		12	59.1 58.3	27	l
14 16	48.0 46.9	44	-12.3	14 16	53.8 52.9	35 36	-II.I	14 16	55.0 54.0 54.9 53.8	33 34	-11.0	14 16	58.9 58.0 59.0 58.1	27 27	-II
18	50.4 49.5 50.0 48.7	40 41		18	53.9 52.0 53.4 53.0	35		18	57.5 55.2	30		18	60.5 59.5	25	
20	48.1 44.0	47		20	50.7 50.7	39		20 22	55.5 54.9 56.1 52.2			20 22	61.0 60.0 60.5 59.8	24 24	
22 24	44.7 44.7 46.1 45.3	49 47		22 24	53.9 52.8 52.3 50.0	35 39		24 26	56.6 56.0			24 26	60.4 59.0	25 26	
26	44.0 41.2	52		24 26	53.8 53.0	35		26	55.0 54.2	33		26 28	60.0 58.7	26 28	
28 30	48.3 47.8 47.4 46.8	44 45	-12.0	28 30	53.6 53.1 55.3 54.2	35 33	-11.1	28 30	56.8 56.0 55.4 54.3		-11.1	30	58.8 57.4 58.0 56.8		-11
32	48.1 47.0	43	12.0	32	52.8 52.3	36	11.1	32	56.5 55.2	31		32	58.5 57.6	29 28	
34 36 38	47.6 47.3	44		34 36	57.7 57.7	28		34 36 38	57.0 55.8 55.8 54.0			32 34 36 38	59.5 58.1 59.3 58.0	26 27	
30 38	50.3 49.0 53.0 52.0	41 36		38	55.0 <i>b</i> 51.1 <i>b</i>	32 39		38	55.3 54.9	32		38	58.2 57.3	27 28	
40	48.9 46.0	44		40	51.0 50.2	40		40	55.2 54.3			40	55.2 54.9 52.3 51.7	32	
42	48.9 47.9 46.6b	43 46	-11.9	42	54.0 53.6 55.3 55.0	34 32	-11.1	42 44	55.7 55.7 55.0 55.0		-II. I	44	52.3 51.7 54.5 53.8	37 34	-11
46	49.2 48.5	42 46	11.9	46.5	57.3 56.0	30		46	57.0 56.0	30		46	55.5 53.0	34	1
48	50.2 43.0 57.0 55.8	46		44 46.5 48 50	57.3 57.1 53.6 52.8	29	'	44 46 48 50 52	55.9 55.2			50	57.9 56.9 58.2 57.6	29 28	
44 46 48 50 52 54 56 58	57.0 55.8			52	51.9 51.0	35 38		52	53.0 52.6	36		42 44 46 48 50 52 54 56 58	58.0 57.6	28	
54	48.0 47.1	44		54 56	49.1 49.0	42		54 56 58	54.8 53.8 57.0 56.2			54 56	57.8 57.1 58.0b	29 28	
50 58	50.0 48.9 50.0 49.7	1 -		58	53.8 53.0 56.2 56.0			58	56.0 55.2	32			56.2 56.2	31	
00	50.2 49.9	40	-11.8	11 00	58.8b	26	-11.2	13 00	55.I 54.3 55.9 55.0		-11.1	15 00 02	56.5 <i>a</i> 57.3 57.3	30 29	
02 04	51.7 50.4 55.0 54.2			02 04	58.8 <i>b</i> 58.2 57.4	26 28		04	57.0 55.8	30		04	57.4 57.2	29	
06	51.8 49.8	39		об	57.9 56.9	29		06	56.8 55.5	31		06	58.5 58.0 58.0 57.5		
08 10	54.I 53.3 54.0 53.0			08	59.5 59.2 58.9 57.9			10	58.0 56.8	31		10	57.2 56.1	30	- 1
12	54.3 52.3	35	;	12	59.6 59.1	26		12	58.0 56.2	29		12	56.0 54.6		
14	56.0 54.6	. 32		14	59.7 59.0			15 16	56.5 55.0 55.8 54.1		1	14 16	55.I 53.7 55.0 53.2		
16 18	52.2 51.8			16	57.3 56.9 58.8 58.2			18	57.7 56.4	29		18	55.3 54.2	33	;
20	50.5 49.5	40		20	59.0 58.5	27		20 22	59.3 58.7 60.8 59.5			20 22	56.0 55.0 56.0 55.2		
22 21	52.8 51.0 53.0 51.8	37 37		22 24	60.3 59.8 60.8 60.1	25 24		24	60.2 59.0			24	56.1 55.5	31	
26	46.I 45.2	47			60.5 60.0	24		26 28	58.0 57.0	29		26 28	56.2 55.5 57.1 56.5 56.9 56.8	31	
28	54.0 52.8	35 40	-11.6	28	59.3 58.9 57.5 57.0	26 29		30	56.9 55.5 57.1 56.0	31	-11.0	30	56.9 56.8	30	
30 32	51.5 49.0 51.2 49.2	40		32	56.2 56.3	30	11.0	32	58.0 57.0	0   29	1	32	55.9 55.0	32	3
34	55.0 52.2	35		26 28 30 32 34 36 38 40 42 44 46 48	59.0 57.8	27		34	58.0 57.1 56.5 57.1 56.0 57.0 58.0 57.0 58.0 57.0 58.2 57.0 58.2 57.0 58.2 57.0 58.6 57.5 58.6 57.5 58.6 57.5 58.0 56.5 56.0 56.5 56.0 56.5 56.0 56.5 56.0 56.5 56.0 56.5 56.0 56.5 56.0 56.5 56.0 56.5 56.0 56.5 56.0 56.5 56.0 56.5 57.0 56.0 56.0 56.0 56.0 56.0 56.0 56.0 56	27		32 34 36 38	55.9 55.0 56.3 55.7 56.5 55.8 56.0 55.8	31	
34 36 38	53.0 50.5 52.2 49.6			38	57.3 56.0 55.8 54.4	30 32		38	60.3 59.	5 25		38	56.0 55.8	i 31	[ ]
40 42	54.2 52.2	35		40	55.I 53.I	34		40	58.2 57.5	5 28 1 28		40 42	50.5 50.0	31	
42	51.9 49.6	39		42	56.6 54.8 57.0 55.1	31 31	-11.0	42	58.0 57.4		-11.0	44	56.5 56.6 56.3 55.9 57.4 56.8 57.3 56.8	20	)  -I
44 46	52.2 51.0 52.2 50.5	38	-11.4	46	56.2 54.3	32		46	57.9 57.5 58.6 57.8	3 28		44 46 48	57.3 56.8	5   29	9
48	53.3 52.5	36		48	56.9 54.7	31		48	58.2 57. 58.0 56.	[ 28 5 29		50	57.2 56.5 57.0 56.2	30	
50	54.3 53.2 55.2 54.2	34		50 52	60.9 59.4 56.9 54.2			52	57.8 56.	30	1 }	52	57.0 56.3	3 30	o
44 46 48 50 52 54 56 58	51.4 50.0	39		54	54.2 53.0	35		30 32 34 36 38 40 44 46 48 50 52 54 55 58	58.0 56.5 58.9 57.			52 54 56 58	56.2 55.3 56.1 55.6	3 3	I
56	49.0 47.0 50.7 50.0	44		50 52 54 56 58	55.8 54.6 56.7 55.6	32 31		58	57.0 55.		1	58	56.5 55.9	3	

Observer—J. V.

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Observers—J. V. and W. J. P., who alternated from 15h 54m to 16h 04m.

Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	
h m 6 00	d d 56.6 56.6 57.0 56.6	° '	-11.5	h m 18 00	d 52.5	d 51.9 51.8	o , 22 37	-11.5	h m 20 00 02	d 54.0 55.0	d 53.9 55.0	o , 22 34 32	• -12.1	h m 22 00 02	d 57·3 55·9	d 56.3 54.8	22 30	-12.8
04 06 08 10 12 14 16 18	57.0 56.4 57.3 57.1 56.3 55.9 56.3 55.9 56.3 55.3 55.5 54.5 55.5 54.5 55.1 54.1	30 30 29 31 31 31 32 32	-11.0	02 04 06 08 10 12 14 16 18	52.3 52.5 52.5 52.7 52.6 52.6 52.9 53.0	52.0 52.0 52.1 52.4 52.4 52.6 52.6 52.6	37 37 37 36 36 36 36 36 36 36 36	-11.6	04 06 08 10 12 14 16 18	54.1 54.2 54.3 54.5 54.8 54.9 54.0 54.1	53.9 54.0 54.3 54.4 54.8 54.9 54.0 53.7 53.8	34 34 34 34 33 33 34 34 34	-12.2	04 06 08 10 12 14 16 18	53.0 51.9 52.1 52.3 52.5 52.6 53.2 54.9	52.5 50.6 50.9 51.2 51.6 52.3 54.3	32 36 38 38 38 37 37 36 33	-12.8
22 24 26 28 30 32 34 36 38	55.I 54.0 54.7 53.9 55.2 54.4 55.I 54.I 55.5 54.3 55.0 54.3 55.0 54.3 55.0 54.3 55.1 53.3	33 34 33 33 33 32 33 33 33	-11.1	22 24 26 28 30 32.3 34 36	53.0 52.8 52.3 52.2 52.3 52.6 52.0 52.1 52.6	52.6 52.3 51.8 51.9 51.9 52.0 51.8 51.7	36 36 37 37 37 37 37 37 37	-11.6	20 22 24 26 28 30 32 34 36 38	54.6 54.9 54.7 55.1 55.3 56.0 55.0	54.3 54.6 54.5 55.0 55.0 56.0	34 34 33 32 32 31 32 32 32	-I2.2	22 24 26 28 30 32 34 36 38	55.2 56.6 58.8 58.2 57.8 59.5 59.7 59.8 60.1	54.5 56.0 58.0 56.3 56.0 57.3 57.9 58.0 58.2	33 30 27 29 30 27 26 26 26	-12.8
40 42 44 46 48 50 52	54.3 54.0 54.3 54.1 53.6 53.4 54.1 53.9 55.3 55.1 54.5 54.3 54.8 54.8 54.8 54.8	34 34 35 34 32 34 33 33	-II.2	38 40 42 44 46 48 50 52	52.6 52.6 52.5 52.6 52.6 52.6 52.7 52.8	52.3 52.2 52.1 52.3 52.0 52.3 52.3 52.5	37 37 37 37 37 37 36 36 36	-11.6	38 40 42 44 46 48 50 52 54 56 58	56.0 56.2 56.3 55.8 55.6 55.6 56.3	55.5 55.6 55.9 56.0 55.2 54.8 55.2 55.1 56.1	31 31 31 32 33 32 32 31	-12.3	40 42 44 46 48 50.2	59.5 58.6 58.0 57.0 56.0 54.6 54.0	57.6 56.9 56.2 55.3 54.6 55.3 53.3	27 28 29 31 32 31	-12.8
54 56 58 7 00 02 04 06 08	54.5 54.5 55.7 55.5 55.3 55.3 56.2 56.2 56.2 56.1 56.6 55.5 56.2 56.5 56.2 56.2	33 32 32	-II.2	54 56 58 19 00 02 04 06 08	52.8 52.8 52.7 52.6 52.7 53.0 53.0	52.4 52.5 52.5 52.5 52.6 52.8 53.0 52.6	36 36 36 36 36 36	-11.8	54 56 58 21 00 02 04 06 08	56.9 57.0 56.2 55.6 56.0 56.1 55.2 55.4	56.4 56.6 55.9 55.6 55.8 56.0 55.0	30 30 31 32 31 31 32 32	-12.4	54 56 58 23 00 02 04 06 08	53.6 53.4 53.8 53.3 53.1 52.5 52.2 52.3	52.3 52.0 52.6 52.3 52.3 51.6 51.2 51.6	35 36 36 35 36 36 37 38 37	-12.9
10 12 14 16 18 20 22 24	55.5 55.3 55.3 55.3 55.2 55.1 55.5 55.3 54.5 54.5 52.0 52.0 53.7 53.3	32 32 32 32 33 33 37 35	-11.3	10 12 14 16 18 20 22	53.4 52.8 53.0 52.9 53.3 53.0 53.2		35 36 36 36 35 36	-11.9	10 12 14 16 18 20 22	55.1 54.9 55.1 55.3 55.6 55.1 54.9 54.6	54.9 54.7 54.9 55.1 55.4 54.9 54.7	32 33 32 32 32 32 32 33	-12.5	10 12 14.3 16 18 20 22	52.5 52.3 53.6 53.9 53.9 53.3 53.0	51.9 53.0 53.3 53.2 52.6 52.5	37 37 35 35 35 36 36	-13.0
26 28 30 32 34 36 38 40	54.0 53.5 51.0 50.3 52.0 51.6 54.0 54.0 55.0 54.6 53.9 53.3 52.7 52.3	33 34 33 33 33 35 36	-11.4	24 26 28 30 32 34 36 38	53.2 53.3 53.3 53.3 53.6 53.6 53.2	53.0 53.1 53.2 53.0 53.3 53.3 52.8	35 35 35 35 35 35 35 36	-12.0	24 26 28 30 32 34 36 38	53.9 53.9 54.0 53.6 54.0	54.2 53.5 53.8 53.6 53.8 53.8 54.3	34 34 34 35 35 34 34	-12.6	24 26 28 30 32 34 36 38	52.6 53.0 53.0 53.3 52.8 52.2 52.5 54.2	51.6	37 36 36 35 36 37 37 37	-13.0
40 42 44 46 48 50 52 54 56 58	54.1 53.5 54.3 53.9 54.1 53.6 52.6 52.3 52.6 52.1 52.4 52.2 52.6 52.3 53.0 52.6 52.9 52.4	34 34 37 37 37 37 36 36 36	-11.4	40 42 44 46 48 50 52 54 56 58	53.3 53.0 54.1 53.2 53.6 53.9 54.2 53.0	52.9 53.0 52.7 53.9 53.0 53.6 54.0 52.9	35 35 36 34 35 35 34 34 34	-12.0	32 34 36 38 40 42 44 46 48 50 22 54 55 55 58	54.5 56.0 57.6 58.6 59.3 59.6 58.8 59.0	54.38 55.8 56.9 57.6 1 58.1 57.5 57.5 58.8 57.8	31 29 28 27 26 28 28	-12.8	40 42 444 46.2 48 50 52 54 56 58	54.0 53.5 52.2 53.1 53.6 53.4 53.3 52.9 52.5	53.9 53.0 52.0 52.8 52.6 53.1 53.0	34 35 37 36 36 36 35 35 36 36	-13.0

Observer-W. J. P.

Correction to local mean time is — Im 16s. Torsion head at oh oom read 34° and at the end read the same. Observer—W. J. P.

Thu	sday, Janu	ry 28, 19	904			Magn	et scale	erect	Frid	ay, Jar	nuary 2	9, 1904			1	Magnet	scale in	nverte
Chr'r time	Scale readings Left Rig	natio	- Temp	. Chr'r	read	cale dings Right	East decli- ration		Chr'r time	read	cale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d c	•	ĺ	h m	d	d	0 ,	0	h m	d	đ		0	h m	d	ď	0 ,	•
6 00 02	57.8 58. 60.0 60.		3	18 00	47·3 49.2	50.2 52.1	22 24 27	-19.4	20 00 02	52.9 53.0	52.2 52.2	22 42 41	-19.4	22 00 02	53.2 53.2	51.2 51.9	22 44 43	-17.2
04 06	59.7 62. 59.0 62.	7 43	4   3	04 06	48.2 48.0	51.I 50.I	26 24		04 06	53.0 52.7	51.8 51.5	42 42		04 06	53.2 52.7	52.0 51.4	43 44	
80 10	56.7 60. 55.0 59.	2 40	0	08	47.9 45.3	49.4 47.1	24 20		08	52.3 52.1	51.I 50.9	43 43		08 10	52.3 52.2	51.3 51.2	44 44	
12 14	55.0 59. 53.9 58. 54.2 58.	7 36	5	12	4I.I 39.8	42.9	13	70.0	12	54.2	50.0	42	70.0	12	51.9	50.9	45	77.0
16	53.0 57	4 35	5	14 16	37.5	39.7	80	-19.2	14 16	54.2 54.7	50.0	42 42	-19.0	14 16	51.9 52.9	50.7 50.1	45 45	-17.0
18 20	53.8 57. 54.9 58.	9 30	7	18	38.6 40.1	40.7 42.2	09 12		18 20	54.8 54.6	50.2 50.2	4I 42	·	18 20	53.2 53.9	50.9 51.1	44 43	
22 24	55.2 58. 53.8 57.		7	22	42.0 44.0	44.2 46.7	15 18		22 24	54.8 54.2	50.3 50.2	41 42		22 24	53.9 53.8	51.7 51.8	42 42	
24 26 28	53.5 56. 53.1 55.	0 34	1	24 26 28	45.7	48.3	2I I9		24 26 28	55.6	51.4	40 38		24 26 28	53.5	51.8	43	
30	52.7 55.	I 33	20.4	30	45.0 43.0		16	-19.1	30	57.1 56.0		39	-18.7	30	53.5 53.1	52.1 52.2	42 43	-17.0
32 34	51.3 54. 51.0 53.	9 30	)	32 34	41.0 38.8	42.3 39.9 38.2	09 06		32 34	55·3 54·2	52.I 51.0	40 42		32 34	54.0 57.7	53·3 56.6	41 36	
34 36 38 40	50.6 52. 51.2 54.	I 31		34 36 38	37.I 36.3	38.2 37.2	06 05		34 36 38	52.7 53.1	49.8 50.1	44 43		34 36 38	61.1 61.3	60.2 59.7	30 31	
40 42	51.8 54. 52.2 55.	8 32	2 !	40 42	35.6	35.9	03 06		40 42	53.9 53.9	51.1 51.0	42 42		40 42	66.5 65.8	65.0 63.1	23 25	
44	52.2 54.	4 32	20.0	44	37 · 7 37 · 6	38.2	07	-19.0	44	53.0	50.2	43	-18.2	44	64.8	64.0	25	-17.0
40 48	50.9 52.	8 29		44 46 48	37.2 38.1	38.8 39.6	07 08		44 46 48	53.2 53.7	49.8 50.2	44 43		44 46 48	65.3 66.0	64.3 64.6	24 23	•
42 44 46 48 50 52	51.2 52. 49.5 51.		7	50 52	36.9	38.3 34.8	06 22 01		50 52	53·3 53.8	50.2 50.3	43 43		50 52	64.9	63.8 63.1	25 26	
54 56 58	48.9 50. 48.1 49.	1 26		54 56 58	30.0 30.8	31.9 31.9	21 55 56		54 56 58	53.9 54.2	51.2 51.9	42 41		54 56 58	63.2	62.8 60.0	27 31	
58	47.0 48.	3 23	} .	58	31.1	31.9	57		58 21 00	54.4	52.0	41	~18.o	58	58.8	58. I	34	
7 00 02	48.1 48. 48.1 48.	5 23 8 23	}	19 00 02	24.9	26.2 22.8	47 42	-19.0	02	54.7 55.8	52.3 53.5	41 39	-10.0	23 00 02	57·3 55·9	56.3 55.6	37 38 38 37 36 38	-17.0
04 06	48.2 48. 48.8 48.	8 24		04 06	24.8 25.9	25.8 26.2	47 48		04 06	56.1 56.8	54.2 54.1	39 38 38		04 06	56.3 56.7	55.9 56.1	38 37	
08 10	48.1 48. 47.2 47.	7 23	1	08 10	26.5 33.6	26.9 34.4	2I 49 22 0I		08	55.6 54.8	52.8 52.1	40 41		08 10	57.1 56.0	56.8 55.2	36 38	
12	47.5 48.	3 23		12	30.7	31.I	21 56	TO 0	12	55.5	53.1	40	-17.8	12	54.5	53.9	41	77 0
14 16	47.8 48. 48.1 48.	23 23		14 16	34.0 38.0	34.8 39.2	22 0I 08	-19.0	14	55·5 55·7	53·5 53·7	39 39	-17.8	14 16	53.9 53.8	53.1 53.1	42 42	-17.0
18 20	48.7 49. 49.0 50.	25 25 26	ĺ	18 20	35.2 32.1	37.0 33.8	22 04 21 59		18 20	55.2 54.9	53.9 53.9	39 <b>39</b>		18 20	54·5 54·7	54.0 54.1	41 40	
22 24	49.0 50. 49.5 50. 48.8 49.			22 24	28.7	30.4	53		22 24	54.9 54.8 55.2	53.7 52.8 51.9	40 40		22 24	54.2 54.1	54.0 53.7	41 42	
24 26 28	40.I 47.	21		24 26 28	30.9 29.2	31.9 30.8 36.3 36.8	56 21 53 22 02		24 26 28	55.2 55.1 54.8 54.5	51.9 51.2	41 42		24 26 28	54.1 54.9 54.9	53.7 54.4 54.3	41 41	
	45.7 46.	20	-19.7	30	35. I 34. I	36.8	22 02	-18.9	30	54.5	51.8	42	-17.4	30	55.2	54.5	41	-16.9
32 34	45.3 46.0	19		32 34	29.7 28.7	33.0 33.4 38.0 48.0 48.9	22 02 21 56 21 55		32 34	54.3 54.8	51.8 52.2	42 41		32 34	55.0 54.8 55.0 56.1 62.1	54.2 54.0	4I 4I	
36 38	45.4 45.4 48.1 48.3	19		34 36 38 40	34·5 44.1	38.0 48.0	22 03 19		34 36 38	55.2 54.9	52.7 52.8	40 40		34 36 38	55.0 56.1	53.6 55.0	41 39	
40	48.5 48.9	24		40	46.0	48.9	2I 2I		40 42	55.0 54.9	52.6 52.7	40 40		40	б2.1 62.б	60.9 61.6	30 29	
44	50.2 50.8 51.7 52.0	29	-19.6	44	34.5 44.1 46.0 46.8 64.9	48.4 67.8	51 22 54	-18.9	44 46	54.9	52.5 52.8	40	-17.2	40 42 44 46 48	61.5 60.3	59.3 58.6	32	-16.5
46 48	51.1 52.0 51.8 52.8			46 48	75.7	78.4	23 07		48	54.0 53.8	52.2	41 42		40 48	60.0	58.4	33 33	
50	50.1 51.7 48.8 50.1	28		50	59.2 43.2	61.9 52.1	22 4I 2I		50 52	53.8 53.2	51.9 51.3	42 44		50 52	61.1 60.1	58.2	33 34	
30 32 34 36 38 42 44 48 55 55 55 55 55 55	46.7 48.2	22		42 44 46 48 50 52 54 56 58	37.2	50.I	15		54 56	53.2	51.1	44		50 52 54 56 58	59.9	56.7	35	
50 58	46.2 48.2 46.6 49.6	22 23		50 58	48.4 48.3 62.8	63.8 62.0	35 33 58	_	58	53.3	51.1	44 44		58	58.7	56.7 55.1 55.9 55.3	37 36	
				20 00	62.8	79. I	58	-18.9						24 00	58. I	55.3	37	<b>–</b> 16.2

Correction to local mean time is — 12s. 90° torsion = 12.8. Torsion head at 15h 10m read 23° and at 20h 30m read 38°. Observer—J. V.

Correction to local mean time is -37s.  $90^{\circ}$  torsion = 12.'8. Torsion head at 20h oom read  $49^{\circ}$  and at 24h 40m read  $27^{\circ}$ . Observer—R. R. T.

hr'r ime	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	lings	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
m 00* 02 04 06 08 10	d d 51.3 52.0 51.0 51.9 51.3 52.2 51.0 51.8 51.0 52.3 50.0 50.3	° , 22 4I 4I 4I 4I 4I 39	-18.9	h m 2 00 02 04 06 08 10	d 8.0 19.8 12.0 14.2 19.4	d 11.0 24.0 17.7 18.0 23.9 12.8	23 25 45 34 36 45 23 29	-I7.I	h m 4 00 02 04* 06 08*	d 61.2 77.2 36.2 28.9 54.9 51.0	d 53.2 71.8 22.1 14.0 36.9 33.9	24 29 24 02 22 51 23 03 23 29	o	h m 6 00 02 04 06 08 10	d 60.0 57.9 57.0 51.0 45.1 41.5	d 58.0 57.0 54.0 49.9 44.9 39.5	05 08 16 24 32	• -I7.0
12 14 16 18 20 22 24 26	48. I 49. 0 47. 0 47. 6 46. 7 47. 3 46. 8 41. I 48. 2 48. 5 49. 8 50. 7 52. 0 52. 3 51. 9 52. 6	36 34 34 36 39 42 42	-18.5	12 14 16 18 20 22 24 26	37.4 40.2 42.4 40.8 37.7 28.6 25.0 26.8	41.1 43.0 44.2 42.1 39.0 30.9 26.1 27.2	24 12 16 19 16 24 11 23 57 51 23 53	-17.2	12 14 16 18 20 22 24 26	47.5 53.1 57.1 61.3 55.0 57.2 69.8 67.1	32.0 38.8 43.2 48.1 41.0 43.2 59.7 56.3	33 23 16 09 20 23 16 22 54 58	-16.6	12 14 16 18 20 22 24 26	47.3 49.0 39.1 42.2 50.7 56.0 59.6 56.9	42.5 46.9 36.0 39.8 47.4 53.0 57.7 54.3 60.8	25 20 36 31 18 10 03 23 08	-17.2
28 30 32 34 36 38 40 42	51.0 51.9 51.4 51.8 53.2 54.0 53.0 54.0 51.2 52.0 49.8 50.8 49.8 50.5 49.3 50.2	41 44 44 41 39 39 38 38	-18.3	28 30 32 34 36 38 40 42	34.0 37.3 37.1 33.0 34.6 34.1 35.6	34.7 38.1 38.1 34.0 35.8 35.2 36.9	24 05 10 10 04 06 05 08	-17.2	28 30 32 34 36 38 40 42	67.0 72.1 67.0 68.0 70.5 75.0 73.1 70.0	59.0 64.1 58.0 60.4 62.1 68.0 65.5 61.0	56 48 57 54 51 43 46 22 52	-16.9	28 30 32 34 36 38 40 42	61.9 61.1 59.8 59.6 57.0 58.1 65.3 65.8	60.8 60.1 58.5 57.9 55.5 57.2 65.3 64.0	22 59 23 00 02 03 07 23 05 22 53	-17.3
44 46 48 50 52 54 56	49.2 50.0 50.1 50.8 50.2 51.0 49.9 50.7 49.8 50.1 49.2 50.1 46.7 48.7	38 39 39 39 38 38 35 38	-18.0	44 46 48 50 52 54 56 58	34.1 36.0 33.0 34.0 35.2 34.3 40.7	36.3 37.5 34.4 37.2 37.1 36.2 42.0	06 08 04 07 08 06 16	-17.2	44 46 48 50 52 54 56 58	58.8 59.7 69.0 69.8 70.0 68.5 66.2	50.5 55.0 62.5 63.9 63.5 62.0 60.5	23 09 23 05 22 52 50 50 53	-17.0	44 46 48 50 52 54 56	64.3 66.9 64.1 67.2 67.9 65.8	62.7 65.0 63.6 64.0 65.2 64.0 69.8	53 55 52 55 52 51 53 45 56	-17.
58 00 02 04 06 08 10	48.8 50.0 50.6 52.0 56.5 56.9 62.3 67.0 67.0 69.6 68.3 70.7 40.2 47.8	38 40 22 49 23 01 07 08 10 20	-18.o	58 3 00 02 04 06 08 10	42.0 35.0 33.2 33.0 31.3 28.3 20.5	43.7 36.4 34.2 33.5 32.0 29.7 22.7 26.5	18 07 04 03 24 00 23 56 45 51	-17.2	58 5 00 02 04 06 08 10	64.9 64.2 61.0 63.0 69.0 64.6 65.9 67.6	59.0 59.1 56.2 58.0 65.1 59.5 62.0 62.9	58 22 58 23 03 23 00 22 50 58 55 53	-17.0	58 7 00 02 04* 06 08 10.5	63.3 65.9 66.9 41.5 41.0 15.3 14.0	63.0 63.1 66.0 35.2 29.0 11.3 7.0 18.2	56 54 51 26 22 31 23 05 23 10 22 52	-17.
14 16 18 20 22 24 26	36.8 43.0 53.2 69.3 27.4 68.9 35.1 43.8 20.5 52.1 45.0 65.8	14 47 27 13 08 38	-18.o	14 16 18 20 22 24 26	26.8 32.9 37.0 33.9 36.0 34.2 36.0	29.2 35.1 38.2 35.5 39.0 38.1 39.0	23 55 24 04 10 05 10 08 10	-17.2	14 16 18 20 22 24 26	64.0 61.0 66.2 58.6 49.9 60.0 59.9	59.1 56.8 62.8 54.9 46.9 56.7 57.3	22 59 23 03 22 54 23 06 19 04 03	-17.0	14 16 18 20 22 24 26	36.2 13.0 14.0 32.1 30.1 26.5 21.3	31.9 10.9 11.0 29.0 26.4 21.6 16.5	22 33 23 08 23 07 22 38 42 49 57	-I7.
28 30* 32 34 36* 38	27.6 54.3 32.9 54.0 42.2 60.1 36.0 54.8 Lost 33.1 42.1 22.0 42.0	23 19 24 07 23 58 24 10 01		28 30 32 34 36 38	45. I 49. 4 50. 0 41. 0 30. 5	52.1 51.9 45.0 31.0	24 30 31 24 18 23 59		28 30 32 34 36	59.9 57.9 60.0 55.5 54.2 57.3	57.2 54.3 58.2 52.1 51.9	03 07 02 11 12	-17.2	28 30 32 34 36 38	26.3 31.4 24.9 20.3 26.8	24.0 29.0 25.5 18.1 23.1	47 39 47 56 47	-17
30 40 44 44 48 50 54 55 58	22.0 42.0 38.0 52.3 38.0 53.0 63.0 71.1 40.2 49.8 40.4 52.8 46.5 52.4 57.0 64.0 46.3 51.0 19.9 22.8 8.2 13.2	22 22 56 22 24 28 46 24 27	-17.2	30 40 42 44 46 48 50 52 54 56 58	31.4 37.5 35.0 22.0 17.2 12.2 14.8 21.8 25.8 29.2 42.1	40.2 36.0 24.9 20.2 14.5 17.0 23.2 27.9 32.3	24 02 12 24 07 23 48 40 32 36 46 53 23 59 24 20		38 42 44 46 48 55 55 55 58	57·3 65.0 61.3 56.0 57.0 58.1 63.8 55.1 56.8 59.9	59.9 53.2 54.5 56.7 62.3 52.0 55.9	22 56	-17.2	38 40 42 44 46 48 50 52 54 56 58 8 00	25.3 25.2 24.8 22.2 30.9 26.5 24.2 32.8 26.1 25.6 25.2	24.0 23.6 20.9 28.6 24.9 23.2 30.0 25.0 24.0	47 48 48 48 53 40 46 49 37 46 47 48	

Observer-J. V.

Correction to local mean time is — 1m 12s.

Torsion head at oh oom read 35° and at the end read the same.

Observer—J. V.

	lay, February	1, 1904				Magne	et scale	erect	Tues	day, Fe	bruary	2, 1904			. — Ma	gnet s	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
ı m	d d	۰,	·	h m	ď	d	0 ,		h m	ď	ď	۰,	0	h m	d	d	0 /	0
3 00	Lost		-24.0	10 00	36.8	49.2	22 45 38	-19.2	12 00	47.6	46.7	22 47	-14.7	14 00	36.2	35.2	23 05	-14.9
02 04	Lost 42.0 45.0	22 46		02 04	32.0 20.2	44·3 34·2	38		02	45·3 44.8	44. I 43.7	51 52		02 04	35.6 38.2	35.1 38.2	06 01	
06	43.1 44.0	46		06	14.6	30.2	13		06	44.9	44.0	52		06	38.0	38.o	23 02	
08 10	46.1 48.2 39.6 41.9	52 42		08	23.I 24.0	26.2 32.4	16 22		08	47.2 45.0	45.9 42.9	48 52		08	40.I 41.0	39.7 40. I	22 59 58	
12	42.0 43.8	45		12	21.9	37.8	25		12	44.7	43.6	52		12	39.8	39.2	22 59	
14	41.2 42.1	43	-23.4	14	28.0	39.9	31	-19.0	14 16	46.2 45.4	44.7	50 51	-15.0	14 16	39.2 37.8	38.3 37.1	23 00 03	-14.9
16 18	47.6 48.0 Lost	53		16 18	32.8 32.3	42.0 42.2	37 36		18	45.2	44.0 43.3			18	39.9	38.3	00	
20	42.0 42.0	44		20	35.2	44.6	40		20	49. I	44.8	52 48		20	39.3	38.3	00	
22 24	39.5 42.0 43.0 45.2	42 47		22 24	29.7 32.0	39·3 40.0	32		22 24	49. I 47. I	46.4 43.3	46 50		22 24	39.3 39.9	38.1 39.0	23 00	
26	41.0 44.2	45		26	34.0	39.8	34 36		26 28	48.5	44.2	49		24 26 28	40.2	39.0	22 59	
28 30	37.0 38.8 37.2 39.8	37 38	-22.4	28 30	24.8	32.9	23 08	-18.8	30	50.5 47.9	47.8 44.3	44 49	-15.2	30	40.8 39.3	39.4 38.0	22 58 23 01	-14.9
32	37.2 39.8 38.0 40.5	39	-23.4	32	16.2	23.5 30.1	14	-10.6	32	45. I	41.8	53	-5	32	38.3	38.0	10	-4.5
34 36	43.4 46.2	39 48		34 36 38	18.8	39.3	23		34 36 38	46.9 45.9	43.6	50 <b>52</b>		34 36 38	37·4 38.0	37.1 38.0	03 02	
30 38	44.0 46.8 33.6 37.0	49 33		30	23.6 15.5	4I.3 3I.0	29 I4		38	45.0	41.2	54		38	38	.2a	23 01	
40	27.0 29.8	22		40	15.5 20.8	28.8	17		40 42	42.7 41.1	38.8 37.6	22 57 23 00		40 42	4I.I 4I.I	40.0 40.2	22 58 58	
42 44	29.2 30.8 27.2 29.4	25 22	-22.0	42	35·3 27·5	43. I 41.8	39 32	-18.2	44	42.9	39.9	22 56	-15.3	42	42.2	40.2 4I.I	22 56	-14.9
46	33.2 34.4	31	22.0	44 46 48	20.7	3I.I	19	10.1	44 46 48	41.2	38.2	59		44 46 48 50	39.7 38.6	39. I	23 00	
48 50	Lost 37.0 40.2	38		48 50	22.I 27.2	31.3 38.9	20 30		50	42.3 43.7	39.2 41.1	5 <b>7</b> 55		50	40.0	38.2 38.7	01 23 00	
52	36.4 41.0	39		52	29.6	41.3	34		52	43.6	41.2	55		52	41.0	40.2	22 58	
54 56	26.0 32.3	24		54 56	29.7	38.3	31		54 56	41.5 40.7	40.I 39.2	57 59		54 56	42.1 42.8	41.3 41.7	56 55	
50 58	31.8 34.8 28.0 30.2	30 24		58	31.5 25.1	39.9 34.0	34		58	41.2	41.0	22 57		58	45.3	44.I	51	
00	25.0 27.4	19	-21.0	11 00	32.3	40.4	35 38	-18.0	13 00	39.7 41.6	39.2 39.6	23 00 22 58	-15.2	15 00 02	44.7	44.I 4I.I	52 56	-15.0
02 04	29.2 33.8	27 24		02	34.6 26.0	42.0 33.7	38 25		04	41.0	39.5	58		04	42.8	41.3	55	
об	33.2 36.0	32		04 06	28.7	34.6	25 28		o6 o8	42.3	40.9	56 22 59		06 08	44.0	43.2	53	
08 10	30.5 37.8 25.8 29.5	32 21		o8 10	29. I 29. 2	36. I 34.8	29 28		10	40.4	39.0 38.3	22 59 23 00		10	43.3	42.9 42.2	54 54	
12	32.2 37.8	22 33		12	31.0	35.6	30		12	37.1	34.8	05 08		12	44.9	43.9	52	
14	57.4 62.5	23 I2 02	-20.5	14 16	30.4 32.4	35.0 <b>3</b> 6.9	29 32	-18.0	14 16	34.8 34.0	33.0 32.7	00	-15.0	14 16	47·3 48.2	46.2 47.3	48 46	-15.0
16 18	50.6 57.2 58.0 66.1	15		18	39.3	44.0	43		18	36.9	34.7	05		18	49.2	47.9	45	
20	60.0 64.2	23 15		20	36.6	41.1	39		20 22	37.2 37.3	35·5 34.8	04 23 05		20 22	50.0	48.6 47.8	44 45	
22 24	26.2 30.2 23.4 27.6	22 22 18		22 24	39.3 34.0	44.5 36.9	44 34		24	44.2	41.8	22 54		24	48.9	47.4	46	
26	23.4 27.6 33.1 38.2	34		26	32.3 30.1	36.0	32		26 28	42.8 41.6	40.5 39.6	56 58		26 28	48.9 49.8	47.2 48.9	46	
28 30	42.0 48.9 38.0 51.1	49 48	-20.0	28 30	30. I 33.0	34.9 37.8	29 34	-18.0	30	41.8	39.8	57	-15.0	30	49.4 48.9	48.6	44 44	-15.0
32	21.8 32.2	20		32	36.7 38.6	41.6	39		32	41.8	40.4	57 56		32	48.9	48.2	45	
34	15.2 23.4	08		34 36	38.6	42.9	J 30		34 36	41.9 40.6	40.7 39.9	22 58		34 36 38	49. I 48. 8	48.3 48.2	45 45	
38	30.2 39.9 24.3 35.0	33 24		38	31.5 32.6	34.6 36.1	7 32		38	39.6	39. I	23 00		38	47.8	46.8	47	
40	32.1 41.8	24 36		40	25.7	30.3 28.0	18		40 42	39. I 37. 2	39.1 36.7	00 03		40 42	47.9 48.0	47.1 46.3	47 47	
42	32.0 39.9 29.0 37.4	34 30	-19.5	42 44 46 48	23.2 24.9	30.I	21	-17.9	44 46	37.2	36.3	04	-14.9	42 44 46 48	47.4	46.0	47 48 48	-15.0
46	36.9 47.2	44 28		46	26. I	30.4	22		46    48	37.9 35.2	36.8 34.2	03 07		40 48	47·3 49.1	45.8 48.7	48 44	
48	26.2 37.0 29.8 41.9			48 50	28.9 26.3	32.3 31.1	26 23		50	35.1	34.9	06		50	53.2	50.3	40	
52	31.1 42.4	34 36 38		50 52	23.9	27.2	23 18		52	32.9	32.9	10		50 52	53.9	51.2	39	
54	32.0 44.5	38		54	23.7 28.3	26.9 31.2	18 24		50 52 54 56	30.9 32.1	29.8 31.8	14 11		54 56	53.3 53.1		39 40	
32 34 38 42 44 48 52 54 58	27.I 37.8 29.0 4I.6	29 33	1,2	54 56 58	32.I	34.7	30		58	34.3	33.1	08		56 58	53.9	52.2	40 38	
J_	-9 4			12 00	25.8	29.6	21	-17.7						16 00	55.0	53.3	36	-14.

Correction to local mean time is + 1m 58s.

Torsion head at 7h 35m read 31° and at the end read the same.

Observer—H. H. N.

Correction to local mean time is — 17s. 90° torsion = 13.7. Torsion head at 11h 25m read 18° and at 16h 35m read 29°. Observer—R. R. T.

i					1						1						
hr'r ime	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca readi	ngs	East decli- nation	
m 00* 02 04	d d 49.8 <i>a</i> 55.0 <i>b</i> 63.5 <i>a</i>	23 26 34 48	-20.5	h m 2 00 02 04	d 32.9 30.3 37.0	d 36.6 35.0 38.5	22 48 44 22 52	-18.5	h m 4 00 02 04	d d 64.3 65.1 68.0 69.2 62.3 64.0	23 35 41 32	-17.8	h m 6 00 02 04	47.0	d 51.2 49.8 57.9	00 20 20	• -17.1
06 08 10 12	46.2 54.6 13.8 16.5 25.0a 79.0a	23 27 22 32 22 47 24 I2		04 06 08 10	45.3 46.4 47.3 47.0	48.7 48.3 49.4 48.8	23 07 08 09 08	-0 .	06 08 10 12	59.6 61.0 61.0 62.5 59.8 61.2 59.2 61.3	28 30 28 28	-17.8	06 08 10 12	46.0 38.0 49.3 49.6	53.2 43.3 54.6 53.2	23 11 22 57 23 15 14	
14 16* 18 20 22	30.0 <i>b</i> 37.0 51.7 40.0 53.5 24.7 36.4 21.5 34.0	22 55 23 29 32 07 03	-20.0	14 16 18 20 22	44.0 48.3 47.5 42.5 46.3	45.2 49.0 49.0 43.9 49.1	03 10 09 01 08	-18.4	14 16 18 20 22	69.6 72.2 75.8 78.0 75.5 78.0 69.9 72.6 65.5 67.3	37	-17.0	14 16 18 20 22	39.8 45.6 40.6 37.3	47.0 46.0 52.8 43.8 42.6	03 01 10 23 00 22 56	-I7.0
24 26 28 30 32	26.0 40.0 20.6 32.8 21.4 33.3 30.8 34.4 38.0 39.0	11 01 02 10 20	-19.5	24 26 28 30 32	52.9 53.6 53.0 57.6 58.4	55.9 56.0 54.9 59.0 59.8	19 19 18 25 26	-18.3	24 26 28 30 32	63.0 64.0 51.2 52.5 48.2 49.6 54.0 54.6 48.5 49.9	15 10 18	-17.5	24 26 28 30 32	30.3 13.0 52.8	49.3 31.6 15.0 58.0 49.3	23 07 22 42 22 15 23 20 23 05	-17.1
34 36 38 40 42	49.3 49.6 48.7 49.9 45.6 47.6 39.3 42.6 39.7 42.2	37 36 32 23		34 36 38 40 42	49.6 45.6 43.9 44.3 43.0	51.2 47.0 45.0 45.6 44.0	06 03 04 02		34 36 38 40 42	51.1 52.3 45.6 45.8 44.3 45.0 44.8 50.5 47.0 47.9	03 08		34 36 38 40 42	40.3 33.9 29.9	37.5 45.5 37.7 35.5 35.1	22 48 23 01 22 50 44 45	:
44 46 48 50* 52*	55.6a 63.0b 70.0a 9.2 26.5 37.6 43.0	23 46 23 58 24 09 24 23 23 30	-19.3	44 46 48 50 52	45.8 47.8 50.0 45.8 39.3	46.4 49.1 50.5 46.2 41.0	06 09 12 23 05 22 56	-18.0	44 46 48 50 52	47.8 48.0 49.8 50.2 45.9 46.3 48.0 48.3 48.5 49.8	08 12 06	-17.5	44 46 48 50 52	29.8 32.3 31.6 24.7	34.0 35.4 34.5 27.5 21.0	43 46 45 34 23	-17.2
54 56 58 00 02 04	27.8 34.5 21.6 25.3 22.5 26.3 19.3 23.0 19.4 22.2 19.0 22.3	16 04 05 00 23 00 22 59	-19.0	54 56 58 3 00 02 04	44.5 48.0 50.6 49.3 50.2 47.3	46.5 49.5 51.6 50.3 51.3 48.0	23 05 10 14 11 13 23 08	-18.o	54 56 58 5 00 02	49.6 50.0 48.0 48.6 44.7 45.3 39.9 40.3 36.3 37.0	23 04 22 56 51	-17.3	54 56 58 7 00 02	15.1 16.3 29.9 24.3 26.0	18.0 18.7 31.6 26.0 26.6	19 21 41 33 34	-17.1
06 08 10 12	27.6 29.6 27.3 29.6 22.6 25.6 22.0 23.0 21.3 24.0	23 12 12 05 02 03		06 08 10 12	40.1 35.0 36.0 37.3 39.7	41.0 36.2 37.3 38.5 40.3	22 57 49 51 53 22 56	ტი . გი . ტე -18.0	04 06 08 10 12 14	30.6 31.0 30.8 30.8 34.6 34.9 35.6 35.6 44.0b 53.0b	42	-17.3	04 06 08 10 12	30.3 21.1 22.8 22.3	34.5 32.0 23.0 23.0 23.0 24.5	47 42 28 29 29	
16 18 20 22 24	24.0 26.5 24.0 26.1 24.3 26.9 25.8 27.7 27.6 30.0	07 06 07 09 12	-19.0	16 18 20 22 24	42.3 40.9 39.9 40.3 39.6	42.6 41.6 41.0 41.1 40.5	23 00 22 58 57 57 56		16 18 20 22 24	60.9 61.5 56.5 57.5 44.4 46.2 38.3 40.5 39.8 40.5	29 23 23 04 22 55	27.3	16 18 20 22 24	26.8 29.6 39.6 25.2	28.0 30.6 40.7	36 40 56 33 18	-17.0
26 28 30 32	23.9 26.6 23.9 25.3 24.8 28.0 26.6 29.3	07 06 08 11 23 03	-19.0	26 28 30 32	35·3 32·1 25·3 26·0 29·3	36.0 33.0 25.5 26.6 29.6	49 44 33 34 39	-18.0	26 28 30 32	44.2 44.9 45.5 46.8 45.0 45.0 39.7 40.3	23 03 06 23 04 22 56	-17.2	26 28 30 32	16.5 25.1 21.6 22.0	19.6 26.0	22 33 27 28	-17.0
34 36 38 40 42	21.4 24.0 16.5 18.3 16.3 17.1 16.8 17.6 14.3 14.5 17.0 17.6	22 54 53 54 50 54	-18.9	34 36 38 40 42	34.0 37.6 38.6 37.1 35.0	34·3 38.3 39.8 37.8	47 53 55 52 49	-18.o	34 36 38 40 42	39.3 39.7 46.0 46.3 45.5 46.1 47.8 48.3 50.06	05 09 12		34 36 38 40 42	37.9 27.8 19.0 23.6	39.5 29.6 20.6 26.6	47 54 38 24 33 37	; ;
44 46 48 50 52* 54 56 58	19.9 20.3 19.8 20.3 18.3 19.3 37.3 42.3 36.3 40.3 34.5 38.1 38.3 42.3	59 58 57 56 53	2019	42 44 46 48 50 52 54 56 58	37.2 42.8 44.7 41.0 47.8	38.0 44.6 45.1 41.6 48.3 .0a	22 52 23 02 23 04 22 58 23 09	13.0	44 46 48 50 52 54 56 58	59.0 60.5 56.3 57.6 55.6 57.0 52.6 53.0 47.5 48.0 46.4 47.8 53.8 55.0	22 16 08	-I7. I	44 46 48 50 52 54 56 58	25.0 26.4 28.5 26.0	29.0 28.3 30.3 31.8 28.9 29.0	37 35 38 40 36 36	-17.2

Çhr'ı	Sc read	ale lings	East decli-	Temp.	Chr'r		ale lings	East decli-	Temp.	Chr'r	Sc. read	ale ings	East decli-	Тетр.	Chr'r		ale lings	East decli-	Temp
time	Left	Right	nation	C.	time	Left	Right	nation	C.	time	Left	Right	nation	С,	time	Left	Right	nation	C.
h m	d	d	۰,	•	h m	d	d	0 /		h m	ď	đ	۰,		h m	d	d	• ,	0
8 00 02	28. I 24. 7	29.9 26.8	22 39 34	-16.5	10 00 02	24.2 26.0	27.0 28.0	22 33 36	-16.4	I2 00 02	23.6 24.1	24.3 25.3	22 3I 32	-16.6	14 00 02	24.0 25.1	24.7 26.0	22 3I 33	-I7.C
04 06	26.2 27.3	28.6 30.3	34 36 38		04 06	25.8	28. I	35		04 06	26.3 27.2	27.1 28.1	35 36		04 06	24.5	25.0 25.8	32	
<b>o</b> 8	29.0	31.6	41		08	25.0 26.9	27.0 27.2	34 36 38		<b>o</b> 8	27.6	28.9	38		80	25.0 26.0	27.0	33 35	
I0 I2	27.4 24.3	31.8 29.0	40 35		I0 I2	28.1 26.8	29.5 28.9	38 37		10 12	27.0 27.4	28.0 28.1	36 36		10 12	26.3 26.0	27.2 27.0	35 35	
14 16	24. I	29.0	35 36	-16.4	14 16	25.2	27.0	34	-16.5	14 16	28.0	29.0	38 38	-16.8	14 16	27.0 26.9	28.0 27.8	35 36 36	-17.0
18	25.1 24.8	29.9 29.5	36		18	24.9 25.1	26.2 26.7	33 34		18	27.4 28.3	29.2 29.8	39		18	26.7	27.9	36	
20 22	24.3 26.0	29. I 30. 0	35 37		20 22	25.2 25.6	26.5 25.8	34 34		20 22	28.9 28.6	30.I 30.0	40 39		20 22	26.0 26.4	27.0 27.8	35 36 36	
24 26	24.0	28.1	34		24 26	26.2	26.2	34		24 26	28.5	29.6	39		24 26	26.9 27.2	28.1 28.8	36	
28	22.9 31.0	26.0 36.7	32 46		28	26.0 25.9	26.3 27.0	34 35 36		28	29.0 29.1	29.9 30.0	39 40		28	26.8	28.0	37 36	
30 32	30.5 27.2	34·5 32·4	44 40	-16.2	30 32	26.9 26.8	28.0 27.9	36 36	-16.5	30 32	29.0	29.8 28.7	39 38 36	-16.9	30 32	26.0 25.4	27.2 27.0	35 34	-16.9
34	21.8	26.0	31		34	27.0	28.1	36 36		34 36 38	27. I 27. I	27.8 27.9	36 36		34 36 38	26.3 27.0	27.8 28.1	34 36 36	
36 38	20.9 26.7	34.7	29 41		34 36 38	26.4 26.2	27.7 27.0	35		38	27.5 28.8	28. I	37		38	26.3	27.4	35	
40 42	28.0 28.6		44		40 42	25.4 25.2	26.9 27.0	34 34		40 42	28.8	29.3 29.7	39 39		40 42	26.2 25.9	27.0 26.8	35 34	
44	24.6	32.1	44 38 36	-16.2	44	27.0	29.0	37	-16.6	44 46 48	28.5	29.4 28.0	39 37	-17.0	44	25.9 26.7	26.6 27.2	34 35	-16.9
44 46 48	23.8	31.0	37 36		44 46 48	27.0 26.1	29.0 28.0	36		48	27.0	27.4	36		48	26.8	27.2	36	
50 52	24.5 23.8	30.8 28.8	36		50 52	26.1 27.7	28.0 29.3	37 36 36 38		50 52	26.7 27.0	27.0 27.9	35 36		44 46 48 50 52	27.0 27.3	27.8 28.0	36 36	
54	21.0	25.8	34 30		54 56 58	27.0 27.1	29.0 28.9	37		52 54 56 58	28.0 28.0	29.I 29.3	35 36 38 38		54 56 58	27.8 27.9	28.4 28.2	37 37	
56 58	22.0	25.1	29 30 38		58	27.2	29.0	37 37		-	27.9	28.9	38		58	26.5 26.6	27.6	36 36	-6 0
9 00 02	26.3 28.4		38 40	-16.2	II 00 02	26.2 26.9	28.2 28.8	36 37	-16.6	13 00 02	27.2 27.0	28. I 28. I	36 <b>3</b> 6	-17.0	15 00 02	26.7	27.8 27.7	36	-16.9
04	31.8	34.0	45		04 06	27.5 27.3	29.1 29.0	37 38		04 06	27.0 26.9	28.2 27.8	36 36		04 06	27.7 28.0	28.9 29.8	36 38 38	
06 08	30.3 25.0	<b>2</b> 6.2	42 33		08	27.0	28.3	37 36		08	27.0	28.2	36		08	27.3	28.2	37	
10 12	16.8 21.0	19.2 23.0	22 28		10 12	27.I 27.7	29. I 29. 3	37 38 38		10 12	29.2 28.2	29.8 30.0	40 39		I0 I2	27.0 26.8	27.9 27.7	36 36	
14	23.3	25.2	31	-16.2	14 16	27.4 26.6	29.3	38 36	-16.5	14 16	26.8 26.0	29. I 28. 0	37 36	-17.0	14 16	27.0 27.4	28.0 27.9		-16.8
16 18	24.0 24.0		33 33		18	27.6	29.0	38	-10.5	18	27.1	28.6	37 38		18	26.9	27.3	36	
20 22	23.7 25.0		33 36		20 22	27.I 25.7	28.9 27.0	37 34		20 22	28. I 29. I	29.6 30.6	38 40		20 22	26.0	26.7 26.3	34	
24 26	24.5	28.0	34 36		24	26.0	27.2	35 38		24 26	28.4	30.0	39 38		24 26	25.7	26.0 25.1	34 32	
20 28	25.I 27.3	29.0 30.8	30		24 26 28	27.8 29.7 29.8	29.1 31.0	41		26 28 30	27.9 26.9	29.3 28.0	36		26 28	24.8 24.2	25.0	32	
30	27.3	31.0 31.6	39 39 40	-16.5	30 32	29.8 27.8	30.7 28.5	41 37	-16.4	32	26.0 26.7	27.2	35 35	-17.I	30 32 34 36 38	25.0 25.8 25.8 24.8	25.2 26.3	33 34	-16.8
34	28.9	20.0	30		34	24.9	25.9	33		34 36 38	25.6 25.1 26.5	26.7 26.3	34		34	25.8	26.1 25.0	34	
30 38	23.5 21.1	25.6 24.0	32 29 33 36		38	24.0 23.0	24.8	32 31		38	26.5	27.7	34 36 36		38	25.0	25.0	32	1
40	25.0	26.0	33		40	23.8 25.2	20.0	32 34		40 42	27.I 25.8	28.2 26.5	30	1	40 42	25.0 25.8 26.0	26.0 26.0	34	
42 44	24. I	25.8	32	-16.5	44	24.3 23.8	27.3 26.2	33	-16.5	44	25.0	20.0	33	-I7.I	44	25.4	25.8 24.7	33 32	-16.
46 48	22.7	24. I 29. 9	30 38		32 34 36 38 40 42 44 46 48	22.9	24.0 24.1	31 30		48	25.0 25.2	25.4 26.0	33		48	21.9	24.1	29	)
50	28. I	31.0	40		50	23.5 26.0	24.4	31		50	25.2 26.2	25.9			50 52	24.0 24.0		32	:
32 34 36 38 40 44 46 48 50 52 54 55 55 58	20. I	27.0 23.9	35 28		50 52 54 56 58	27.0	28.5	35 36		40 42 44 46 48 50 52 54 56 58	27.7	28.1	37		44 46 48 50 52 54 56 58	24.0	27.1	33	3
56	24.4	28.5 27.0	35 33		56	25.4 25.0	27.1 26.6	34 34		50 58	23.3	24.0 23.2	30 29		50		27.2 27.0		

Observer-J. V.

Observers—J. V. and R. R. T., who alternated from 15h 56m to 16h 08m.

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Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scal readir Left F	ngs d	East ecli- ation	Tenir C.
ı m	d d	0 ,	•	h m	đ	d	0 /	۰	h m	đ	d	0 /	•	h m	d	u	o ,	۰
00 02	23.7 26.1 23.9 26.4	33		18 <b>00</b>	25.6 25.2	26.0 25.8	22 34 33	-15.9	20 00 02	23.8 25.9 26.8	24.4 26.5	22 32 35 36	-15.4	22 00 02	36.7	38.8	2 23 27	–14.б
04 06	24.0 26.5 24.2 27.1	33		04 06	25. I 24.8	25.4 25.2	33 32		04 06	26.9	26.8 26.9	36		04 06	37.1	39.2 38.9	27 28	
10	24.6 27.9 24.6 26.8	34		08 10	24.5 24.3	24.9 24.8	32 32		08	26.3 26.1	26.3 26.1	35 35		08 10	39.0	39.1 39.9	28 30	
12 14	25.9 27.9 26.5 27.9	35	-16.2	12 14	24.2 23.6	24.4 23.8	31 30	-15.8	12 14 16	25.2 25.8	25.9 26.0	34 35	-15.3	12 14	45.0	46.3 49.3	38 42	-14.4
16 18	26.5 28.1 26.0 28.0	36		18	22.9 22.3	23. I 22.8	29 29 28		16 18	25.5 26.1	26.3 27.2	35 36		18	48.1		40 2 44	
20 22	26.1 27.8 26.1 27.7	35		20 22	21.9	22,2 22,1	28		20 22	25.7 25.0	26.0 25.8	35 34		20 22*	23.0	35.6	3 IO 24	
24 26	25.7 27.2 25.5 27.1	35	,	24 26	22.I 22.2	22.4 22.8	28 29 28	i	24 26	25.8 25.6		35 35		24 26	24.5	32.8 37.0	20 26	
28 30	26.4 28.8 26.2 28.8	36	-16.o	28 30	22.0 22.2	22.3 22.9	29	-15.8	28 30	25.9 25.2	26.1 25.9	35 34	-15.3	28 30	18.9	31.2 40.7	17 25	~14.4
32 34	26.1 28.3 25.3 27.7	' 35		32 34	22.9	23.8	30 30		32 34	24.2	24.5 24.1	32 32		32 34	40.2	39.1 51.8	25 58	
36 38	25.9 27.8 27.0 29.0	37		34 36 38	23.6	24.5	30 31		34 36 38	22.7	23.2	30 28 28		34 36 38	8.2	28.7   25.4   2	09 3 04	
40 42	27.9 30.0 26.2 28.1	36	-6 -	40 42	24.8 25.2	25. I 25. 7	32 33		40 42	2I.0 20.8	21.6 21.2	27	7.5	40* 42	47.8	55.1	37	
44 46 48	26.2 28.9 26.8 29.7	30	-16.1	44 46 48	24.7 24.1	25.7 24.9	33 32	-15.9	44 46 48	21.0	21.5	27 26 26	-15.2	44 46 48	49.0	71.0 58.2	44 41	-14.4
50	25.3 27.8 25.1 27.1	34		50	24.7	24.9 25.3	32 32		50	20.0	21.0	26 26		50 52		70.3 69.9 L'd	45 45	
52 54 56	25.8 27.8 24.3 27.6	34		52 54	24.2 25.6 28.1		32 34		52 54 56	20.0 19.6		26 27		54 56	50.0	66.6 63.0	40 36	
58	23.9 26.9	33 34	75.0	54 56 58 19 00	35.9	29.9 37.9 51.8	39 22 51 23 09	-15.8	58 21 00	19.7 20.0 19.7	21.5 21.2	27 26	-15.o	58 23 00	46.4	60.8 59.9	33 31	-14.4
7 00	24.6 28.2 25.5 28.9	36	-15.9	02	44.2 36.3 37.0	37.0 40.7	23 59 22 51 22 54	-15.0	02 04	18.0	19.7	24 22	-15.0	02 04	45.7	60.3 58.3	32 30	
04 06 08	25.I 28.2 24.0 27.	33		04 06 08	54.9 58.9	58.3	23 22 27	į.	06 08	14.1 11.9	_	18 16		o6 o8	46.2 48.3	60.4 61.8	32 35	
10	24.2 27.4 25.0 28.6 24.9 27.9	35		10 12*		.7b	47 56		I0 I2	12.I II.I	14.9	15		I0 I2	52.3	64.8 64.9	4I 4I	
12 14 16	24.9 27.9 24.8 27.1 25.2 27.8	34	-15.8	14 16*3	31.9	39.9	55	-15.8	14 16	12.0	15.2	15	-15.0	14 16	53.2	63.9 64.2	4I 4I	-14.5
18 20	25.2 27.3 25.3 27.3 25.8 27.3	3 34		18 20	33.6	35.9	22 49		18	13.7	17.1	18		18 20	53.0 51.6	63.3	40 38	
22 24	26.1 27. 26.2 27.	5 35		22 24	26.8	30.0	39		22 24*	36. I		22 59 25 04		22 24	49.9	58.8	34 33 36	
26 28	26.4 27. 26.3 27. 26.6 27.			26 28	25.7 26.2 25.0	28.8 27.8	37		26* 28.2	15.7 26.9	53.2 67.4	23 38 58		26 28	51.2 51.2	59.8 59.7 60.4	36 36	
30 32	26.6 27.0 26.9 27.	5 36	-15.8	30 32	25.9 26.3 25.9	27.8	36	-15.6	30* 32	54.2 38.2	74.0	23 00	-14.8	30 32	52.6 51.0	60.4 61.3	36 38 37	-14.
34 36 38	26.9 27. 26.6 27. 26.8 27.	1 35			25. I	26.0	34		34 36 38	24.8 61.3	70.8	22 36 23 12		34 36	49.9 50.1	59.9 59.8	35 35	
38	26.9 27.	5   36		34 36 38 40	24.3 23.8 24.7	24.4 25.3	32		40	50.0	58.4	22 54		38 40	50.0 51.1	59.0 59.1	34 35	
40 42 44 46 48	26.4 27. 26.1 26. 26.1 26.	35 35	-15.8	42 44 46	23.9 22.7	24.6 23.3	32	-15.4	42	30.8 28.0	50.9 38.8 36.8	23 19	-14.7	42	52.I 51.9	59.9 58.2	37 35 38	
46 48	26.2 27.0 26.0 26.0	P   35		48	23.5 23.8	24.0 24.3	3I 32		46   48	28.9 28.6	35.4	18		44 46 48	53.9 53.1	59.8 59.7	37	-14.
50 52	26.1 26. 25.9 26.	35		50	24.0	24.0 24.8	32		50 52	30.6	37·9 40.2	22 26		50 52	53.2 53.6	59.0 58.9	37 37	
50 52 54 56 58	25.9 26. 25.7 26.	ნ 34	.	52 54 56	21.0	22.9 23.7 23.5	20		44 46 48 50 52 54 56 58	27.7 30.5	31.7 32.8	14 18		50 52 54 56 58	53.6 54.0 55.3 56.7	58.9 59.9	37 39	
58	25.3 25.			58	22.8	23.5	30		58	34.1	37.0	24		24 00	56.7 56.7	61.4 63.1	41 43	

Observer-R. R. T.

Correction to local mean time is — Im 59s. 90° torsion = 14.'9. Torsion head at oh oom read 26° and at 24h 26m read 28°. Observer—R. R. T.

		1	1	1 1			cale inve		Frida					<i>i</i> 1	<del></del>			1
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ings	East decli- nation	Temp. C.	Chr'r time	Scr read Left	ings	East decli- nation	Temp C.
h m	d d	۰,	•	h m	d	d	0 /	•	h m	d	d	۰,	0	h m	đ	ď	a ,	•
6 00	54.5 54.5 55.0 53.9	22 36 36	-22.0	18 00 02	56.9 57.1	56.1 56.9	22 33 32	-17.9	20 00* 02	41.2	41.9 41.1	22 I7 I6	-19.5	22 00 02	35.0 35.0	42.9 42.2	22 37 36	-15.9
04 06	54.7 53.5 54.0 53.0	37 38		04 06	57.1 56.8	56.9 56.0	32 33		04 06	40.9 39.9	41.2 40.5	16 15		04 06	37.6 46.3	46.9 54.5	42 22 55	
08 10	54.4 53.2 55.2 53.4	37 36		08 10	56.5 56.0	55.8 55.2	34 35		08 10	39.2 38.9	40.2 39.4	14 13		08 10	61.0 60.3	68.9 66.1	22 55 23 18 15	
I2 I4	56.2 55.2 56.8 55.0	34 34	-2I.I	12 14	55.9 55.9	55.2 55.2	35 35	-17.7	I2 I4	37·5 38.0	38.8	12 12	-18.8	12 14*	79.0 36.0	80.0 46.8	40	-15.9
16 18	57.0 55.1 58.8 56.0	34	21.1	16 18	55.9 56.0	55.2 55.8	35 34	-/./	16 18	37.3 37.8	38.3 38.3	11	10.0	16 18	17.0	33.0 49.8	44 18 23 51	23.9
20	57-3 55-4	33		20	56.2	56.2	34		20	37.9	38.9	11		20	63.0	77.5	24 29	
22 24	57.7 55.9 57.8 55.6	33 33		22 24 26	56.3 55.9 55.8	56. I 55.8	34 34		22 24 26	39·4 39·5	40.0 40.0	14 14		22* 24	53·3 31.1	55.I 42.2	25 24 24 56	
26 28	57.1 55.8 56.8 55.2	33 34 33		28	56.0	55.2 55.8	35 34		28	40.5	41.0 42.0	16 17		26 28*	40.5 38.5	49.0 48.9	25 09 23 21	
30 32	57.2 56.0 56.9 55.8	33	-20.0	30 32	56.0 56.2	55.8 55.8	34 34	-17.4	30 32	4I.I 4I.9	41.9 43.0	17 18	-18.3	30 32*	13.5 40.0	27.7 49.0	22 45 21 53	
34 36 38	56.0 55.0 55.6 54.5	35 36		34 36	57.0 57.1	56.1 56.6	33 33		34 36 38	42.2 43.0	43.9 44.2	19 20		34 36 38	4I.9 5I.2	58.0 62.0	22 OI I2	-15.3
38 40	56.5 55.7 56.4 55.7	34 34		38 40	56.8 56.6	56.0 56.0	33 33		38 40	43.1 43.5	44.0 44.1	20 20		38 40	50.9 42.5	60.0 50.4	22 IO 21 56	
42 44	56.3 55.7 56.2 55.2	34	-19.9	42	56.4 57.1	56.0 56.6	34 33	-17.2	42	43.3 42.9	44.2 43. I	20 19	-18.o	42 44	61.0 67.0	64.8	22 2I 32	-15.2
46 48	55.1 54.3	34 36 36	-9.9	44 46 48	58.0 58.1	57·3 57·7	3I 3I	,,,,	44 46 48	42.0	43.0	18 16	10.0	46 48	61.4 63.2	66.5	23 26	13.2
50	54.9 54.2 56.0 55.6	34		50	58.0 58.2	57.5	31		50	39.7	40. I	14		50	67.0	72.0	32	
52 54 56	56.7 56.0 57.0 56.5	33		52 54	58.8	57.9 58.0	31 30		52 54 56	40.1 40.4	4I.2 4I.2	15 16		52 54 56	60.2	70.4 64.0	30 20	
58	57.1 56.7 57.0 56.5	32 33		54 56 58	59.0 59.5	58.5 59.0	30 29		58	39.0 31.3	40.2 33·5	14 02		58	62.1	67.0 69.0	24 28	
17 00 02	57.9 57.5 57.5 57.3	31 32	-19.4	19 00 02	59.5 59.0	58.9 58.7	29 30	-17.0	2I 00 02	31.5	33·3 32.6	02 02	-17.5	23 00 02	68.8	72.0 71.8	33 34	-15.1
04 06	59.0 58.2 57.7 57.0	30 32		04 06	58.8 58.7	58.2 58.2	30 30		04 06	30. I 25.8	32.I 29.0	22 0I 2I 55		04 06	68.2	70.6 73.0	32 36	
08	57.7 57.2 58.1 57.9	32 31		08	59.0 59.0	58.7 58.5	30 30		08	21.8 26.3	26.1 35.2	2I 49 22 00		08 10	73.0 75.6	75.I 77.0	39 42	
12	59.0 58.6 58.6 58.2	30	-19.0	12 14		.9a 57.2	3I 32	-17.0	12 14*	45.8	54·5 52.2	22 30		12	75.0 76.3	76.9 78.1	42 44	-15.1
14 16	57.9 57.4	31	-19.0	16	57.5 57.8	57.2	32	17.0	16* 18		59.0	25 44 24 38		14 16* 18	38.5	46.5	47	
18 20	57.2 56.9 57.0 56.7	32		20	58.6	57.5 58.1	31 30		20	Lo	st			20	40. I 39. 0	48.0 45.9	50 47	
22 24	57.0 56.5 56.8 56.2 56.0 55.5	33		22 24	58.3 58.1	57.9 57.8	31 31		22 25*	1.0 21.8	20.4	22 04		22 24	36.7 35.0 34.8	43.0 41.2	43 40	
26 28	1 55.0 54.7	34 36		26 28	58.2 58.2 58.3 58.2	57·7 57·7	31		26 28*	13.0 26.8 22.8	29.4 19.0 32.9	2I 49 39		26 28	34.8	40.2 39.2	39 38 38	
30	55.0 54.8 55.5 55.0 55.0 54.4 54.8 54.1	34 36 36 35 36 36 36	-18.5	30 32	58.3	58.0 58.0	31 31	-16.6	30 32	22.8	26.8	32 30	-16.3	30	34.0 34.0 33.3 34.5 36.0	39. I 38. 3	38 37	-15.
32 34 36 38	55.0 54.4 54.8 54.1	36 36		34 36 38	57.9 58.0 58.8 58.9 58.2	57·4 57.8	3I 3I		34 36 38	21.2 23.8 23.1	29.0 28.2	33 32		34 36 38	34.5	39. I 40. 5	37 38 40	
38	55.0 54.7	36		38 40	58.8	58.2	30		38 40	23. I 27.8	33.6	40 47		38	1 38.5	43.0	44 46	
40 42	55.5 55.2 56.0 55.7	35 34 34	-18.2	42	58.2	58.4 58.1	31	-16.4	42	32.9 37.6	42.2	21 54		40 42	39·5 38·0	42.I	43	
44 46	56.0 55.9 55.9 55.4	35		44 46 48 50 52	58.2 57.9	57.9 57.8	31 31	-10.4	46	44.6 55.4 57.8	47.9 58.0	22 04		44 46 48 50 52	37.0 38.1	40.9 42.0	42	3
48 50	55.9 55.2 56.1 55.6	35		48 50	57·5 57·5	57.5 57.0	32 32		48 50	57.8 67.2	60.0 71.0	24 40		48 50	38.1 37.9	41.0	42	3
52	56.4 55.9 56.2 55.8	34 34		52 54	57.5 57.5 58.2 58.6	57.5 57.0 57.6 58.0	31 30		52 54*	67.2 71.4 47.2 46.8	75·4 57·3	47 58		52 54	37·3 36. I	40.3	41	:
44 46 48 50 52 54 56 58	56.2 55.8 56.2 55.9	34 34		54 56 58	57.5 58.3 58.0	56.9 57.7	32		42 44 46 48 50 52 54* 56 58	46.8	57.0 48.0	57 45	'	54 56 58	34.9	36.9	37	7
20	30.2 33.9	34		20 00	58.0	57.3	31				,	1		24 00	33.7 38.0	39.7	4	

Correction to local mean time is + 9s.
Torsion head at 15h 40m read 28° and at the end read the same.
Observer—J. V.

Correction to local mean time is — 5s. 90° torsion = 13.'3. Torsion head at 19h 30m read 28° and at 24h 20m read 32°. Observer—J. V.

Sund	ay, February	7, 1904			Ma	ignet s	cale inv	erted	Sund	ay, February	7, 1904				Magne	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem.
ı m	d, d	0 ,	•	h m	d	d	0 ,	•	h m	d d	0 /	•	h m	đ	d	0 /	•
00* 02	50.2 30.2 43.0 I2.0	23 02 23 22	-20.0	2 00 02	52.1 47.9	48.7 45.5	22 58 23 04	-17.7	4 00 02	63.8 66.1 56.0 59.2	23 II 23 00		6 00 02	35.2 36.0	41.3 40.3	23 03 23 03	-15.5
<b>0</b> 4 06	74.5 69.5 51.5 42.0	22 I2 22 52		04 06	43.8	40.9 37.9	16		04 06	54.2 56.3 Overl'k'd	22 56		04 06	31.0 31.3	36.0 37.0	22 56 22 57	
08 10*	41.0 31.9 24.0 19.0	23 08 24 03		08	46.1	42.6 41.1	80		08	52.0 56.8 56.0 57.8	55 59		08 10	35·5 34·2	40.9 40.0	23 03 02	
12 14	59.0 29.9 61.0 35.4	23 27 21	-19.4	12 14 16	40.3 37.9	36.3 34.8	17 20	-17.4	12 14	52.8 53.2 49.0 50.0	52 47	-15.5	I2 I4	38.8 42.0	46.0 47.0	10	-15
16*	55.2 17.3 69.0 35.4	03 30		16 18	40.0	36.9 41.2	17		16 18	48.5 49.0 46.6 47.2	46 43		16 18	46.0 46.0	50.8 49.7	19 18	
20 22	71.1 37.3 54.3 19.0	27 55		20 22	51.1 52.2	47.9 49.1	23 00 22 58		20 22	50.0 51.0 52.1 52.3	49 51		20 22	46.6	50.5 43.9	20 IO	
24 <b>2</b> 6	58.9 28.0 53.0 23.3	44 52		24 26	48.0 54.8	45.2 52.0	23 04 22 53		24 26	51.0 51.2 49.3 49.9	50		24 26	41.8	44.0 42.5	08	
28 30	51.2 24.0 63.2 41.5	53 30	-18.8	28 30	60.3 60.5	58.2 58.3	44 44	-17.2	28 30	50.2 50.2 48.8 49.6	47 48 46	-15.6	28 30	37·4 34.0	38. I 35. 3	23 03 22 58	-15.3
32 34	61.0 43.5 61.0 41.6	30 32	10,0	32	60.5	58.4 61.8	44 39	-,	32	46.0 46.7 47.0 48.2	42 44	-5	32	37.0 35.9	39.2 39.0	23 03 23 02	
36 38	60.6 41.2 65.0 46.0	32 25 38		34 36 38	63.3 53.8 51.2	52.0 49.6	54 58		34 36 38	53.1 <i>a</i> 51.0 51.0	53 49		34 36 38	34.0 36.4	36.5 38.1	22 59 23 02	
40 42	56.2 37.6 60.1 42.9	38 31		40 42	50.7	49.2 48.8	22 59 23 00		40 42	51.0 <i>b</i> 50.0 50.6	49		40 42	36.0 30.7	37.1 32.9	23 OI 22 53	
44	61.3 43.2	30	-18.6	44 46 48	49. I 49. 3	47.9 48.3	0I 23 0I	-17.0		56.8 59.0 56.6 58.0	23 00	-15.7	44 46 48	26.8 24.5	29. I 26. 3	47 43	-15.2
44 46 48	50.2 31.8	41 48 48		48	50.9	49.7	22 58		44 46 48 50 52 54* 56	55.2 57.8 60.0 61.2	22 58		48 50	23.0	25.3 29.9	41 48	
50 52	43.6 38.3 50.0 36.2	44		50 52	51.7 52.6	49.3 50.8 51.8	59 57		50 52	72.5 73.0	23 04 23		52	24.2 35.0	26.0 38.2	22 43 23 0I	
54 56	50.2 39.0 70.0 58.5	23 II		54 56 58	52.8	51.6	55 55		56	25.6 35.0 16.0 23.0	37 20		54 56 58	48.8 62.2	49.8 65.0	21	
58	78.4 65.9 76.9 66.0	22 59 23 00	-18.4	3 00	51.8 52.1	51.I 51.4	57 56	-16.9	58 5 00	27.7 36.1 15.7 25.1	40 22	-15.5	7 00	64.0 63.5	68.3 65.0	47 44	-15.
02* 04	57.0 45.0 55.9 44.4	22 57 22 59		02 04	53.I 52.0	52.5 51.4	54 56		02 04	21.4 31.1 28.2 37.2	31 41		04 06	72.0 56.0	73.0 57.8	57	
06 08	52.I 46.5 50.0 40.0	23 00 07		o6 o8	57.7 53.8	52.6 52.8	51 54		06 08	22.9 34.0 11.1 21.8	34 15		08	58.9	60.0	33 37 08	
10 12	53.5 45.0 63.9 55.2	23 00 22 44		I0 I2	54.0 53.0	53.8 52.3	53 55		I0 I2	15.0 26.0 21.9 29.9	22 30		10	39.5 58.4	42.7 60.8	37	
14 16	65.0 56.9 59.5 56.6	42 46	-18.3	14	51.5 52.0	50.7 50.9	57 57	-16.7	14 16	6.0 I6.3 9.0 I7.5	07 10	-15.5	14 16	39.9 48.4	41.2 50.0	07 21	1
18 20	56.5 48.7 56.2 50.2	55 22 54		18 20	50.7 52.4	49·5 51·7	59 56 56		18 20	19.1 27.8 25.9 34.9	26 37		18 20	40.9 58.3	44·5 59·9	36	
22 24	44.I 42.9 33.0 31.2	23 09 27		22 24	52.1 50.0		22 59		22 24	18.9 25.3 18.7 22.1	24 23 22		22 24	65.0 54	.5 <i>b</i>	48 23 29	
26 28	30.0 28.1 38.3 35.8 38.7 36.2 38.8 35.1	32 19		26 28	49.0 50.3	49.8	23 00 22 59		26* 28	26.0 36.1 24.2 35.0 28.9 38.2	22 52 50 56		26 28	32.5 44.0 37.0	38. I 48. I	22 59 23 16	
30 32	38.3 35.8 38.7 36.2 38.8 35.1	19 19	-18.0	30 32	52	50.9 2. <b>9</b> a	57 54	-16.4	30 32	31.2 30.4	22 59 23 18	-15.5	30 32	37.0 20.9 26.0	47.2 32.0	23 10 22 45 22 56	-15.
34 36	31.3 29.4 34.5 32.5	30		34 36 38	54.9 56.0	53·5 55.6	52 50		34 36	43.6 52.0	29		34 36 38	32.0	40.9	23 00	
34 36 38 40 42	32.2 30.0 42.0 40.0	25 28 13		38 40	55.8	55.1 66.1	50 33		38 40	48.7 60.2 44.0 53.8 26.0 35.8	23 20 22 52		40	29.9 21.0	31.0	22 55 44 38	
42	39.2 37.0	17	1	40 42 44	55·9 53·9	55.3	50	-16.3	42 44	23.2 32.4 24.7 34.0	47	-15.5	42 44	15.3	29.0	43	-15.
46 48	39.0 37.2 26.0 24.0 24.5 22.1			46	52.0 51.3	51.8	56 22 58		46 48	30.4 30.0	22 58		42 44 46 48	29.7 17.1	39. I 21. 9	57	'
50	35.5 32.2	24		50 52	48.5	48.2	23 01		50 52	36.0 40.0 47.0 54.0	03		50	23.5	33.6 30.1	48	
44 46 48 50 52 54 56 58	35.5 32.0 38.7 35.8 35.2 32.0	19		44 46 48 50 52 54 56 58	52.3 51.8	52.0 51.0	55 57		32 34 36 38 40 42 44 46 48 50 52 54 55 58	48.2 53.4 46.0 52.8	23		52 54 56 58 8 00*	18.0	24.0 20.2	36 22 46	<b>)</b>
58	40.5 36.3	17		58	52.7	52.0	55		58	39.1 45.3			58 8 00*	15.0	16.1 42.0	21 38	3

Observer-J. V.

Correction to local mean time is — Im 33s.

Torsion head at oh oom read 34° and at the end read the same.

Observer—J. V.

Tabulation of magnetic declinations observed at Teplits Bay-Continued

	e.	-1- ·	777				1	<b>.</b>				•	773	1 .			_1_	Foot	
hr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
m	d	d	0 ,	0	h m	d	d	0 ,	•	h m	d	ď	۰,	0	h m	d	d	. ,	0
00 <b>*</b> 02	48.9 53.2	41.8 45.3	23 02 22 56	-20.0	IO 00 02	64.3 67.2	58.2 59.9	22 37 34	<b>-16.7</b>	12 00 02	41.I 41.8	45.7 42.8	22 25 24	-18.3	14 00 02	45.0 4I.9	47.7 44.1	22 30 25	-16.0
04 06	52.3	41.5	23 00		04	64.3	55.0	40		04	38.9	42.7	21		04 06	42.9	44. I	25 26	
80	46.2 43.7	34.9 33.2	10 13		06 08	63.9 66.0	54.6 60.2	40 34		<b>o</b> 8	33.2 28.1	38.0 29.3	13 22 02		о8	45.6 48.6	45.9 49.9	29 35	
10 12	48.9 50.4	38.0 41.0	05 02		I0 I2	66.7 68.4	60.6 62.9	34 30		I0 I2	19.8	22.0 15.2	21 50 39		I0 I2	47.1 44.8	48.3 46.1	32 29	
14 16	36.2 19.8	21.3 16.5	28	-20.5	14 16	67.0 68.0	61.2	33	-16.4	14 16	11.1 20.7	22.I 30.3	43 21 57	-17.8	14 16	46.0 48.0	47.0 49.5	30 34	-16.0
18	32.1	20.2	45 32		18	68.3	64.3 64.8	30 29		18	27.9	31.3	22 04		18	46.3	49. I	32	
20 22	35.2 23.9	23.3 18.7	28 40		20 22	68.3 67.5	64.3 64.3	29 30		20 22	22.5	27.I 29.0	21 56 57		20 22	47.5 47.1	48.8 48.4	33 32	
24 26 €	29.0 50.7	21.9 40.6	34 23 02		24 26	65.1 65.7	63.0 62.3	33		24 26	IO. I I2.0	20.8	42 43		24 26	51.3 50.3	52.0 50.6	32 38 37	
28	53.1	43.3	22 58		28	67.5	64.1	33 30		28	II.I	22.0	43		28	43.5	44.2	26	-6
30 32	53.0 33.3	45·5 25.1	22 56 23 28	-19.1	30 32	68.3 66.8	64.6 63.5	29 31	-16.2	30 32	17.7 29.1	24.4 45.3	21 50 22 16	-17.3	30 32	45.2	45.4 46.8	29 30	-16.0
34 36	40.9	27.6 30.2	20 18		34 36 38	66.0 64.9	62.3 61.8	33 34		34 36	24. I 28. 2	40.0 45.1	08		34 36 38	46.3 46	46.7 .7a	30	
38	44.4	33.0	13		38	49.5 56.2	47.3	57 48		38	35.2	49.8 49.2	24 24			49.4 46.0	49.8 47.2	35 30	
40 42	46.0	35·4 30.8	10 15		40 42	61.8	52.1 58.3	39 36		40 42	35.2 40.7	52.9	31		40 42	45.0	46.0	39	
44 46	40.4	23.0 28.3	24 23 II	-18.5	44 46 48	64.9 72.1	59.7 66.2	36 25	-16.1	44 46 48	40.6 33·3	55·3 46.7	33 20	-17.0	44 46	45.6 49	46.8 . 1 <i>a</i>	30 34	-15.9
48 50	57.8 52.1	38.4 35.7	22 58 23 05	1	48 50	66.7 59.2	60.6 55.3	34 44		48 50	36.2 38.2	49. I 51.0	24 27		48 50	48.7	48.9 50.8	34 36	i
52	47.0	33.2	23 10		52	72.4	67.3	24		52	42.I	52.7	32		52	51.3	54. I	40 38	
54 56	55.I 59.9	44.0 42.5	22 56 53		54 56	73.5 68.8	66.2 63.3	24 30		54 56	44.1 47.9 49.8	54·4 57·7	35 40		54 56	50.8 49.2	52.3 51.3	36	
58 00	60.9 61.7	43·3 51.2	52 45	-18.3	58 11 00	78.7	72.0 67.6	15 25	-16.o	58 13 00	49.8	58.2 54.5	42 37	-16.7	58 15 00	52.7 52.1	54·3 54·5	4I 4I	-15.
02	67.6	57 - 4	35		02	70.7	65.0	27	1	02 04	38.2 41.8	46.1 48.0	24 28		02	54.1 54.6	55.6 56.0	43	
04 06	57.8 59.7	47·3 49·9	51 47		04 06	63.9	59.4 61.9	37 32	]	06	44.5	49.8	31		04 06	55. I	56.0	44 44 48	
08 01	59.3 61.0	50.5 52.4	47 44	•	08 10	74.8 68.7	67.3 55.5	22 36	1	08	43.3	49.0 48.6	30 30		08	57.0 58.4	58.0 59.0	48 50	
12	55.3	49.7	51	-18.o	12 14*	70.8 76.8	58.2 71.3	22 32 21 30	-15.6	I2 I4	44.8 42.7	45·5 46.7	28 28	-16.4	12 14	58.8 56.0	59.2 56.0	50 45	-15.
14 16	59.9 56.3	54.2 50.0	44 50	-10.0	ıĠ	64.8	43.2	22 02	13.0	16	41.2	45.4	25	10.4	16	59.2	59.7	50	25.
18 20	62.2	57. I 55.7	40 41	1	18 20	64.9 58.8	44.8 40.0	00		18 20	37.9 38.0	42.2 42.7	20 21		18 20	62.6	63.1 63.8	50 56 56 22 58	
22 24	61.3	57.6	40		· 22 24	57.2 64.8	43·4 43·2	07 02		22 24	38.8 35.6	42.9 41.8	21 18		22 24	63.0	65.3 69.2	23 04	
<b>2</b> 6	59.3 64.7	50.2	45 43		26 28	49·3 50.8	30.2	24		26 28	39.2	44.2 40.8	23 18		26 28	66.7 62.3 65.8 68.2 68.8	64.7 67.9 70.8	22 57	
28 30	54.4 47.1	44.7 38.0	43 22 56 23 07	-17.4	30	46.5	34·9 33·2	19 24	-15.0	30	39.2 36.2 32.8	36.0	II	-16.2	30 32	68.2	70.8	23 02 06	-15.
30 32	55.4	43.9 44.0	22 56 52	!	32 34	52.0 54.8	41.1 42.2	13		32 34	38.0	30.8	18		32 34	68.8	70.7 69.4	o6 o5	
34 36 38	63.0 61.6	42.9	50	1	36 38	50.3 43.8	37.0	18		34 36 38	34.2 34.8	39.7 36.8	13		34 36 38	67.0	69.4 68.8	23 04	
38 40	54.9	48.2 41.3	47 58		40	45.I	36.9 37.2	23 22		40	33.2	37·3 37·3	14		40 42	64.3	65.5 66.0		
40 42	54.9 59.6 57.4	41.3 50.8 50.0	47	-17.0	42	44.0 40.2	33.9 28.7	25 32	-14.8	42 44	33.2 31.3 33.8	35.9 38.2	10 14	-16. I	42 44	63.9 64.3 67.7 65.1	68.8 66.7	23 00	-I5.
46	59.4	50.7	47		42 44 46 48	33·4 34.6	24.2 26.8	41 38		46	35.1 38.6 43.2 44.5 46.6	37.2 39.8	14 19		44 46 48	62.3 64.0	64.3 65.8	22 56 59	) [
48 50	02.7 59.8	50.7 53.5 51.1	42 46		50	34.4	26.5	39		50	43.2	43.9	26		II 50	63.9	64.8	58	
52	62.3 63.4	52.4	43 40		52 54	36.8	22.5 28.8	40 31		52 54	44.5 46.6	45.8 47.0	28 31		52 54	61.0 63.9	62.4 65.1	22 58	
44 46 48 50 52 54 56 58	63.3	56.6	39		52 54 56 58	34.4 36.8 41.9 45.5 45.8	30.2	27		40 42 44 46 48 50 52 54 56 58	45.I	45.9 45.9	29		52 54 56 58	63.9 66.7	68.4	23 03	3
58	66.0	00.9	34		12 00	42.0	29.9 27.3	27 32	-14.7	] 30	44.0	43.7	20		16 00	63.9	65.7 65.8	22 59 59	-15.

Correction to local mean time is +4m 23s. Torsion head at 7h 25m read 29° and at the end read the same. Observer—H. H. N. Correction to local mean time is + 53s. 90° torsion = 13.'8. Torsion head at 11h 25m read 25° and at 16h 42m read 38°. Observer—R. R. T.

Wed	nesday, Febru	ary 10,	1904		Magnet	scale inv	erted	Wed	nesday, Febru	ary 10, 1904		Magnet s	scale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp C.	Chr'r time	Scale readings Left Right	East declination C.	chr'r time	Scale readings Left Right	East decli- nation	Temp C.
h m 0 00* 02 04 06	d d 39.5 37.1 39.5 37.5 41.5 40.0 43.5 41.9	° 23 02 23 01 22 57 55	-18.0	h m 2 00 02 04 06	d d 43.6 43.3 45.6 45.3 46.3 45.7 47.1 46.5	50 49	-16.5	h m 4 00 02 04 06	d d 24.0 23.6 27.3 25.7 30.3 29.3 31.1 30.3	23 24 -16. 20 15 14	11 111	d d 31.0 30.3 34.3 34.0 33.5 33.5 Overl'k'd	08 23 09	<b>-</b> 16.0
08 10 12 14 16 18	45.3 43.6 48.0 47.0 50.1 49.3 52.5 51.2 53.3 52.5 55.6 54.8 58.8 58.0	52 47 44 40 39 35 30	-17.7	08 10 12 14 16 18 20	47.I 46.7 48.3 47.9 48.3 48.0 46.8 46.4 46.0 45.8 47.2 47.0 46.9 46.6	46 46 49 50 48 48	-16.4	08 10 12 14 16 18 20	29.7 28.3 31.3 30.3 33.0 31.3 35.3 34.3 29.4 28.6 33.6 32.3 41.3 40.1	16 13 11 07 16 23 10 22 58	16 18 20	41.0 <i>a</i> 48.3 47.3 50.2 50.0 50.0 <i>b</i> 42.6 41.6 48.1 47.0 49.3 48.8	22 57 47 43 43 56 47 45 46	–1б.о
22 24 26 28 30 32 34 36 38	59.4 58.3 59.9 58.9 60.4 59.1 58.3 57.1 54.2 52.6 51.8 50.8 51.6 50.8 51.3 50.8	29 28 28 31 58 41 41 42	-17.5	22 24 26 28 30 32 34 36	48.2 47.8 44.4 44.1 48.6 48.3 49.8 49.2 49.4 49.0 47.6 47.3 46.4 45.3	52 46 44 44 44 47	-16.3	22 24 26 28 30 32 34 36 38	39.5 39.0 40.3 39.7 39.3 38.6 38.6 38.0 38.5 37.9 38.0 37.8 34.1 33.3 28.8 28.6	23 00 22 59 23 01 02 -16. 02 02 09	30 32.2 34 36	29.2 27.6 22.8 21.6	22 46 23 00 12 16 10 17	-15.8
40 42 44 46 48 50 52	49.8 49.0 48.3 48.0 49.3 48.0 49.3 48.2 49.3 48.5 49.3 48.5 49.3 48.5	44 46 46 45 44 45 47 45	-17.3	38 40 42 44 46 48 50 52	45.3 44.3 44.9 44.3 43.8 43.0 46.2 44.6 41.8 41.3 48.8 48.2 46.3 45.3 42.7 41.6	51 52 54 50 56 46 50	-16.2	40 42 44 46 48 50 52	26.I 25.5 20.8 20.I 20.6 20.6 24.2 23.9 28.3 28.I 36.3 35.3 39.3 39.0 37.8b	21 30 29 24 18 06 00 02	38 40 42 44 46 48 50 52	26.3 24.9 27.5 24.3 23.5 19.9 25.5 23.5 26.8 24.0 23.2 21.2 28.0 23.2 35.3 33.3	22 21 28 23 22 27 22 08	-15.6
54 56 58 1 00 02 04 06 08	46.0 45.6 47.6 47.2 47.5 47.0 46.6 46.3 46.8 46.3 46.5 46.3 47.8a 48.2 48.1	50 47 48 49 49 49 47 46	-17.0	54 56 58 3 00 02 04 06 08	40.9 40.0 42.2 41.0 47.6 47.2 49.8 48.2 46.7 45.4 46.5 45.4 47.2 45.8 46.8 45.5	58 56 47 45 50 50 49	-16.2	54 56 58 5 00 02 04 06 08	34.6 34.3 33.6 33.3 32.6 32.4 30.0 28.2 27.6 26.6 24.6 24.1 24.1 22.9 28.3 27.9	08 09 11 16 19 24 25 18	54 56 58	36.0 32.7 35.1 31.0 37.0 34.5 36.5 33.3 34.0 31.8 31.3 29.7 29.0 25.5 34.4 29.8	08 10 06 07 10 14 19	-15.7
10 12 14 16 18 20	48.5 48.2 48.1 47.7 47.8 47.3 49.3 49.3 49.6 49.3 50.8 50.3 51.6 51.3	46 46 47 44 44 42 41	-17.0	09 12 14 16 18 20 22	46.8 45.4 46.1 44.8 45.2 43.7 43.6 42.6 42.0 41.0 41.2 40.7 41.3 40.1	49 50 52 54 57 57 22 58		10 12 14 16 18 20 22	28.2 26.8 25.2 24.1 25.0 24.3 29.7 28.8 29.3 28.5 32.5 32.3 37.6 37.0	18 23 23 16 16 16 11 23 03	10 12 14 16 18 20 22	37.3 33.3 36.0 31.6 34.0 26.8 32.0 24.7 30.0 27.8 30.7 27.6 29.6 27.6	06 09 14 17 16 16	-15.6
24 26 28 30 32 34 36 38	50.8 50.6 50.8 50.6 48.2 48.2 48.3 48.1 48.2 48.1 49.2 48.7 48.0 47.8	42 42 46 46 46 45 46		24 26 28 30 32 34 36 38	39.6 38.4 37.6 36.7 37.8 36.8 38.8 38.1 41.5 40.6 44.4 43.3 45.6 44.8	03 03 23 01 22 57 53 51		24 26 28 30 32 34 36 38	40.5 40.0 41.2 40.6 45.2 44.0 47.2 46.7 53.1 52.6 51.3 51.0 47.0 45.5	22 59 58 52 48 -14.4 39 41 49	24 26 28 30 32 34 36 38	28.9 26.2 32.0 29.3 34.8 33.0 28.0 27.0 27.5 26.0 23.8 21.5 24.6 20.0	19 14 08 18 20 26	-15.5
38 40 42 44 46 48 50 52 54 58	46.5 46.5 47.5 47.3 46.9 46.6 45.8 45.6 44.5 44.5 43.5 43.5 44.3 43.7 41.8a 42.5 42.2 43.5 43.2	49 47 48 50 52 53 53 56 55 54	-16.5	38 40 42 44 46 48 50 52 54 56 58	43.7 43.3 41.1 40.9 41.0 41.2 40.6 40.3 39.3 39.1 37.5b 35.0b 33.5b 31.0 31.0 30.5 30.5 28.1b	57 56 22 58 23 00 03 07 09		38 40 42 44 46 48 50 52 54 56	42.5 39.8 26.5 23.3 18.5 16.8 24.3a 33.3 32.5 34.9 34.3 29.3 27.8 23.6 22.0 19.9 19.6 22.0 21.2	22 57 23 23 34 24 -16. 10 07 17 26 31 28	40 42	31.1 28.3 26.7 23.4 33.6 30.0 26.9 22.0 24.2 20.2 35.0 31.3 27.3 24.3 41.0 37.3 53.0 47.8 42.1 39.9	15 22 12 23 27 10 21 23 00 22 43 57	-15.4

Observer-W. J. P.

Observers—W. J. P. and J. V., who alternated from 7h 40m to 7h 50m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

	caday,	rebru	ary 10, 1	1904		Ma	gnet s	cale inve	erted	Wedı	nesday, Fel	brua	ry 10, 1	1904		Ma	gnet so	cale inv	erted
hr'r	Sca read Left	ings	East decli- nation	Temp C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	Scale reading Left Rig		East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Tem C.
m	d		0 /	0	h m	d	d	0 /	0	h m		d	۰ ,	0	h m	d	đ	0 /	•
00	<b>43.1</b> 40.0	38.0 34.9	22 58 23 03	-15.0	10 00	55.2 50.0	53.0 47.9	22 37 45	-14.2	12 00 02	57.2 56 56.9 56	.I	22 33	-14.0	14 00.5 02	45.I	47·5 41·5	22 47 54	-13.
04	37.9	35.4	23 04		04 06	53.4	50.4	40		04	54.3 53		37		04	45.8	43.I	52	
06	62.5	бо.8	22 25		o6 o8	50.1	46.9	46		06 08		.0	34 36		об 08	46.0 41.6	42.4 40.0	52 22 58	
08	51.2 44.0	50.4 38.9	42 57		10	56.3 57.2	53.8 54.9	35 34		10		.7	34		10	40.0	37.8	23 OI	
12	42.2	38.9	57 58 38		12	53.I	52.8	39		12	56.1 55	3.9	34		12	39.8	37.2	23 OI	
14 16	54.0	52.2		-15.0	14 16	55.9	54·5 56.9	35 32	-14.2	14 16	58.2 58 57.9 57	7.2	30 31	-14.0	14 16	41.7 38.0	39·5 37·0	22 58 23 03	-13
18	43·5 29·3	42.2 24.8	22 54		18	57·5 61.7	59.6	27		18		5.0	35		18	40.5	39.0	22 59	
20	56.5	46.0	22 4I		20	60.5	59.2	27 28		20	53.0 52	2.I	39		20	42.0	40.3	57 56	
22 24	58.2 34.2	54. <b>7</b> 33. <b>2</b>	22 33 23 09		22	60.4 61.9	58.9 59.8	28 26		22	56.0 54 54.8 54	1.3 1.1	35 36		22 24	43.2 43.8	4I.I 42.0	54	
26	42.0	40.8	22 57		24 26	57.0	55.3	34		24 26	58.0 56	5.7	32		26	45.3	43.5	52	
28	49.1	46. <b>0</b>	47		28	59.2	55.I	32		28	58.3 57	7.5	31	<b>*</b> 0.0	28	49.0	48.6 46.8	45	-13
30 32	43.0 40.2	40.5 36.9	22 56 23 01	-14.9	30 32	55.9 55.2	52.0 52.2	37 37	-14.3	30 32	57.1 55 56.2 55	5.8 5.1	33 34	-13.9	30 32	47.5 48.0	46.4	45 48 48	-13
34	77.0	73.5	22 04		34	54.5	51.0	39		34	58.0 57	7.7	31		34	50.4	49.5	43	
34 36 38	60.9	59.0	22 28		36	57.1		35 30		34 36 38		5.6	34		34 36 38	50.5	49.9 49.2	43 44	
38 40	13.5 27.3	7·5 26.1	23 45 23 20	1	38 40	60.0 58.0	57.0 56.0	30		40		1.0	37 35		40	51.9	51.6	40	
42	52.5	49.5	22 42		42	58.5	57.6	31		42	55.0		35		42	53.9	53.1	38 36	
44	53.0	49.0	42	-14.9	44 46 48	57.0		34 28	-14.3	44 46 48	48.6 43	3.0 4.8	50 51	-13.9	44 46 48	55.0	53.9 56.2	36 34	-13
46 48	46.0 49.3	42.6 45.3	52		48	61.1 64.0		23		48	1 45.4 44	5.3	34	-13.9	48	55.4	56.0		
50	49.2	47.9	47 46		50	58.2	57.0	31		50	57.9 57	7.0	32 28		50 52	54.8	53.8	33 36	
52	41.9	39.0	58		52 54 56	62.7		25		50 52 54 56		8.9	28 34		52	55.0 55.4	54.0 53.4	36 36	
54 56	44.2 45.2	37.8 42.5	57 53		54 56	61.0				56	55.0 53	5·7   3·3	37		54 56 58	55.2	54.5	36	
58	48.1		52 48		58	58.1	56.0	32		58	56.8 55	5.3	34		58	56.0	55.2	34	1
00	52.3	42.2	48	-14.8	11 00 02	58.2	57.2 61.0		-I4.I	13 00		7.7   7.9	30 30	-13.8	15 00 02	57·5 58.1	56.5	32 31	-13
02 04	46.6 43.7	38.0 38.5	55 57		04		5.5b	33		04	60.7 50	9.3	28		04	59.2	57·3 58.8	29	
06	49.8	43.2	49		06	58.0	58.0	31		06	63.2 6	1.8	24		06	60.9	60.0	27	
08	43.I	38.8	49 58 46		08	58.4		1 -		08		0.0	25 26		08	60.9	59.9 60.5	27 26	
I0 I2	50.0 48.0	47.0 44.5	49		12	61.1				12		5.8	33		12	60.3	59.4	28	,
14	46.8	42.0	52	-14.8	14	60.4				14 16		4.7	35 38	-13.6	14	62.8	61.5	25	
16	45.I	41.9	53 46		16	56.5 57.5			-14.0	18		3.0 7.5	30		16 18	62.5	61.8 62.0	24	
18 20	49.9 45.0	45.9 42.3	53		20.	58.5	57.0	31		20	59.1 5	8.0	30		20	62.0	61.2	25	
22	45.0		54		22	59.5 62.5	58.1	29		22	58.2 5	7.3	31		22	64.0	62.8	22	
24	49.2	48.9	45 46		24 26	50. T	бо.з 57·7	25 30		24 26	59.8 5 58.1 5	8.0 5.9 7.1	29 32		24 26	64.9 64.5 63.6 63.9	63.8 62.9	22	l l
26 28	49. I 53. 5	47·5 50.0	40		28	59.I 56.9	55.2	34		28	59.0 5	7.1	31		26 28	63.6	62.4	23	3
30	53.5 56.9 56.6	53.9 48.2	35	-14.3	30	56.5	55.6	34	-14.0	30	60.0 5	8.8	31 28 28	-13.6	30	63.9	62.0 63.0	23	
32	56.6	48.2	40		32	56.0 55.2	53·9 54·0	36		32	58.4 5	9.0 7.0	31		32	64.0	62.0	21	
34 36 38	53.1 56.0	47.0	40 41		34 36 38	53.9	52.1	38		34 36 38	60.7 5	9.2	28		34 36 38	64.3	63.1	22	2
38	59.0	50.0	41 36 36		38	57.0	55.5	34		38	64.7 6	2.3	22 20		. 38	62.9	61.0 61.8	2/	
40	58.0	51.8	36		40 42	55.7 60.0	53.1 58.2	20		40 42	65.3 6 66.2 6	4.1	20	1	40 42	64.0	62.0	2/	
42 44	49.0 54.0	43.0 52.0	50 38	-14.1	44	60.3	58.5	28	-14.0	44	64.2 6	3.6	21	-13.7	44	64.7	61.5	2;	3  -1
46	54.6	52.8	37 36		46 48	59.6	58.2	29		46	61.9 5	9.8	26		44 46 48	67.2	64.4	19	
44 46 48 50	55.0	54.0	36	*	50	61.0 57.5	60.0 55.7			48	60.7 5 58.7 5	9.0 7.6	28		50	65.0	63.0 63.8		
50	55.7 53.0		36 41		52	59.0	57.0			52	55.2 5	5.0	35		52	63.8	62.5	2	
52 54 <b>5</b> 6 <b>58</b>	54.0	52.0	38		54	57.5	56.5	32		54	50.0 4	9.9	43		54	65.8	64.0		
56	51.6 52.2	49.0 49.9	43 42		54 56 58	56.9	55.3 55.9			44 46 48 50 52 54 56 58		8.8	41		54 56 58	65.0 65.5	63.2 63.7		

Observer—J. V.

Observers—J. V. and R. R. T., who alternated from 15h 54m to 16h 04m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedi	nesday, Febru	ary 10,	1904		Ma	gnet s	cale inv	erted	Wed	nesday, Febru	ary 10,	1904		Ma	gnet so	ale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp C.	Chr'r time	read	ale ings Right	East decli- nation	Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca read: Left	ngs	East decli- nation	Temp C.
ı m	d d	۰,	0	h m	d	d	۰,		h m	d d	0 *	0	h m	d	d	。, 22 28	
00 02	63.0 62.1 63.2 62.5	22 24 23	-13.0	18 00 02	52.0 51.9	50.1 48.8	22 42 43	-11.8	20 00 02	55.5 54.7 58.0 56.7	22 35 32	-11.6	22 00 02	60.9 63.9	57.9 61.3	22 28 23 26	-11.2
04 06	65.2 64.2 63.1 62.9	20 23		04	50.1 50.2	48.8 48.8	44 44		04 06	58.1 56.6 58.2 56.7	32 32	423	04 06	62.9 62.0	59.2   59.0	27	
10	63.7 63.4 62.4 62.0	22 24		08	51.0 50.8	49.3 48.9	43 44		08 10	58.4 57.0 60.0 58.2	31 29		08	51.0 56.3	48.5 50.1	22 38	
12 14	65.8 62.6 63.5 60.8	2I 24	-12.5	12 14	50.7 51.5	49.2 50.4	43 42	-11.8	12 14	59.4 58.3 59.5 58.2 58.8 57.2	29 29	-11.7	12 14 16	23. 42.2	40.3	23 26 22 57	-11.2
16 18	63.9 61.0 63.0 60.7	24 25	1	16 18	51.7 52.2	50.3 51.4	42 40		18	58.8 57.2 60.8 58.6	31 28		18*4	32.1 54.1 48.8	31.7 53.6	23 I2 24 OI	
20 22	62.1 59.2 62.1 59.0	27 27		20 22	52.4 52.3	51.4 52.0	40 40		20 22	59.9 58.2 59.0 56.9	29 31		20*6 22	157.0	28.9 43.2	22 38 20	
24 26	62.0 58.8 61.7 58.8	27 27	]	24 26	52.2 50.1	51.9 50.0	40 43		24 26	58.5 57.0 58.7 57.2	3I 3I		24 26	50.9 45.6	35.8 31.6	31 39	
28 30	61.2 58.2 64.1 61.3	28 23	-12.2	28 30	49.6 49.4	48.8 49.0	44 44	-11.8	28 30	59.1 57.4 58.9 57.4 58.8 57.6	30 30	<b>⊢11.5</b>	28 30	47.8	33.2 31.3	39 36 40	-II.2
32	66.2 64.1 65.9 63.1	19	ı	32	49.2	48.6 48.1	45 45		32	58.8 57.6 58.2 57.0	30 31		32	38.7 50.9	29. I 42.8	40 46 26	
34 36 38	63.9 60.9 62.8 60.0	24 25		34 36 38	50.2	48.9	44 43		34 36 38	58.3 57.2 58.3 57.1	3I 3I		34 36 38	58.8	50.9 42.1	13 26	
40	63.8 60.8 62.8 60.4	24		40 42	50.3	49.3	44 42		40	58.8 57.4	30		40 42	49.9 48.6	41.9	27	
42 44	61.7 59.6	25 27	-12.0	44	52.4	50.3	40	-11.8	42 44	58.5 57.4	, 3I	r11.4	44	54.3	39.3 45.8 32.8	. 30 21	ŢI.I
48	60.4 58.5 60.9 59.0	28 28		44 46 48	52.2 53.0	51.0 50.0	41 41		44 46 48	60.2 59.2	29 28		44 46 48 50 52	45.4	37.8	42 34	
50 52	59.7 57.6 59.5 57.8	30 30	•	50 52	53.I 53.I	50.0 48.7	41 42		50 52	61.1 59.6 60.2 58.7	27 28		50 52	39·7 28.2	31.0 25.1	22 58 22 58	
44 46 48 50 52 54 56 58	57.7 56.0 56.4 55.0	33 34	į	54 56	52.8 52.0	48.2 48.0	42 43		54 56 58	60.5 58.9 60.2 58.3	28 29		54 56*	15. 41.7 28.8	25.6	23 16 47	
58 7 <b>0</b> 0	56.1 54.6 55.3 53.9 56.6 55.0	35 36	-12.0	58 19 00	52.0 51.9	48.1 48.2	43 43	-11.6	21 <b>0</b> 0	59.9 58.3 59.7 58.1	29 29	-11.4	58 23 00*	72.3	27.8 42.0	23 55 24 07	-11.0
02 04	56.6 55.0 57.3 55.1	34 34		, 02 04	51.1 50.9	48.4 48.5 48.8	44 44		02 04	59.0 58.1 59.8 58.7	30 29 28		02* 04	69.0 70.4	23. I 24. I.	22 4I 40	
o6 o8	57.3 55.2 57.0 54.5	34		o6 o8	50.8 51.1	49.2	44 43		o6 o8	60.1 59.4 60.6 60.1	27		o6 o8	72.7 34.0	38.8	22 26 23 17	
10 12	55.8 53.3 55.2 53.0	34 36 37		I0 I2	51.4 51.2	49.8 49.5	42 43	ĺ	10 12	59.8 58.9 55.0 54.1	29 36		I0 I2	61.0 62.8	38.9 43.0	22 35 31	
14 16	54.0 51.6 54.9 53.2	39	-11.9	14 16	51.4 52.0	49.9 50.6	42 41	-11.7	14 16	47.8 43.0	50 39	r11.4	14 16	65.1 48.8	45.0 29.1	27 22 52	-11.0
18 20	54.1 53.0 55.9 54.2	37 38 35	1	18 20	54·3 54·2	52.5 52.4	38 38		18 20	73.8 62.2 68.8 58.1	15		18 20*	37·7 36.1	19.2 34.0	· 23 09 44	
22	56.I 55.0	34	1	22 24	54.2 53.9	52.7 52.2	41 38 38 38 38		22 24	68.9 61.8 69.3 61.0	19 20		22	En R	45.2 58.7	23 I7 22 56	
24 26 28	56.2 55.0			26 28	54.2 54.0	52.6 53.0	38 38 38		26 28	69.1 63.1 71.2 64.4	18		24 26 28	72.8 66.0 68.7 78.3	52.2 54.3 68.0	23 06 23 03	
30	50.0 54.8	34 34 36	-11.9	30 32	54. I 53.3	52.2 52.0	38 39	-11.7	30	69.3 63.1 68.1 62.3	18	-11.4	30 32*	78.3	68.0	23 03 22 44 38	-11.0
32 34	53.4 51.8	39		34	52.4	51.0	41		32 34	00.9 01.9	21		34	44.5	28.2	39	
34 36 38 40 42	52.9 50.8 52.2 50.1	41		34 36 38 40	52.4 52.2	51.2 51.1	40 41		36 38 40	67.I 62.2 66.9 62.7	20 20		38	44.5 44.0 44.7	27.6 27.7	39 38	,
40 42	52.0 49.9 52.9 50.3 52.0 49.8	42 41		. 42	52.9 53.8	51.2 51.9	40 39		40 42	66.9 62.7 66.2 62.4 67.8 62.8	21 19		40 42	40.9 39.0	24.7	43 45	
44 46 48	52.0 49.8 51.3 49.0 51.1 48.9	42 43	-11.9	44 46	55.2 55.8 56.0	53·3 53·9	37 36	-11.6	44 46	65.8 61.4	2I 22	-11.3	44 46	41.8	26.3 28.1	42 40	-11.0
48 50	52.I 40.0	12		48	55.3	54.8 54.5	35 36		48 50	65.9 62.2 64.8 61.2 64.8 61.8	2I 23		48 50	41.0 37.7	27.2 25.3	41	
52 54	53.5 51.8 52.1 50.6	39 41		52 54	54.7 54.8	53.5 53.2	37 37		52 54	64.8 61.8 64.7 61.4	22 23		52 54	42.2 30.3	30.2 28.2	45 38 42	
50 52 54 56 58	52.1 50.3 52.5 50.9	4I 40		50 52 54 56 58	55.9 54.8	54·3 53·5	35 37		42 44 46 48 50 52 54 56 58	63.2 60.1 61.7 59.2	25 27		34 38 40 44 46 48 50 55 55 58	42.2 39.3 38.5 39.8	28.5	42 41	
50	J=.J J0.9				5-7.5	55.5	07			, 55.2	-/		24 00	37.9	27.8	43	-11.0

Observer-R. R. T.

Correction to local mean time is — 13s. 90° torsion = 14.0. Torsion head at oh oom read 32° and at 24h 22m read 31°. Observer—R. R. T.

Thur	sday, Februa	ry 11, 19	904			Magne	t scale	erect	Frida	ıy, Feb	ruary	12, 1904			Ma	gnet s	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time		ale lings Right	East decli- nation	Тетр С.	Chr'r time	Sca read	ings	East decli- nation	Temp C.
h m б 00*	d d	0 ,		h m	d	d	0 ,	0	h m	d	đ	0 /	0	h m	d	d	0 /	-22.6
02	52.2 54.9 52.9 54.8	39	-18.7	18 00 02	50.8 50.7	52.0 51.9	22 35 35	-16.9	20 00 02	41.8	41.2 40.7	22 42 43	-24.9	22 00 02	40.8 41.9	39.2 39.0	22 44 43	-22.0
04 06	53.7 55.1 53.8 54.9	40 40		04 06	50.7 51.0	51.9 52.1	35 35		04 06	41.9 41.9	40.3 38.6	42 44		04 06	41.I 41.2	39.1 39.0	44 44	
10 08	53.9 55.1 52.8 54.2	40 38		08	51.8	52.9 53.5	37 37	,	08	42.3 41.8	37.I 37.0	44 45		08	41.1 40.9	38.9 38.2	44 45	
12	51.9 53.2	37	-18.2	12	51.8	53.4	37	1 76 0	12	4I.9 4I.8	37·4 37·2	45	-24.0	12	40.8	38.0 38.0	45 45 46	-22.
14 16	50.8 52.3	35	-10.2	16	51.7 51.7	53.8 54.1	38	-16.9	14	42.0	37.I	45 45	-24.0	14 16	40.0 41.1	38.0	45	-22.
18 20	49.9 52.2	34 33		18 20	51.7 51.7	54.I 54.0	38 37	1	18 20	42.4	37.7 37.6	44 44		18 20	4I.I 4I.O	39.0 39.0	44 44	
22 24	49.I 51.3 49.2 51.7	33 34	!	22	51.I 50.2	53.2 52.3	37 36 35		22	42.3	37.8 38.2	44 43		22 24	41.0 40.9	39·4 39·5	44 44	1
24 26 28	49.2 51.4 49.6 51.6	34		24 26 28	50.2	52.I 52.0	35 35		24 26 28	42.9 42.8	38.2 38.7	43 43		24 26 28	40.9 41.1	39.9	43 43	
30	49.3 50.8	34 33	-17.9	30	50.I	51.8	34	-I7.O	30	42.6	39.0	43	-23.9	30	41.9	39.9 40.2	42	-22.4
32 34	49.2 51.0	33 33	`	32 34	50.1 50.2	51.2 52.1	34		32 34	42.8 42.8	39.0 39.0	42 42		32 34	43.0 43.2	40.5 40.4	4I 4I	
34 36 38	49.2 50.8	33		34 36 38	50.7	51.9 51.8,	35 35		34 36 38	42.3 41.8	39.1 38.8	43 43		34 36 38	43.8 43.9	40.9 41.0	40 40	
40	50.2 51.0	34		40 42	50.2	51.3	34		40 42	4I.I 4I.0	39.0 38.7	44 44		40	44.8 44.8	41.8 41.2	39	
42 44	50.7 51.1		-17.7	44	49.7	50.2	34 32	-17.0	44	4I.I	38.6	44	-23.6	44	45.2	41.7	39 39 38	-22.2
44 46 48	50.3 51.1	34 34		44 46 48	49.6 49.8	51.2 51.3	34 34		44 46 48 50	41.5 42.0	37.9 38.1	44 44		48 48	46.0 46.0	41.0 40.9	38 39	
50 52	50.9 51.4 52.1 52.3	35 36 38		50 52	50.1 50.2	51.7 51.9	34 35		52	42.4	38.8 38.7	43 43		40 42 44 46 48 50 52	46.0 45.6	41.0 42.0	39 38 38	
54 56 58	52.9 53.3	38 40		54 56	51.3	52.6 52.9	35 36 37		54 56 58	42.I 4I.5	38.1 38.1	44 44		54 56	42.3 Bea	42.0	41	
58	55.3 55.8	42		58	52.0	52.9	37		58	41.2	38.0	44		58	outsi	ide	-0	
7 00 02	55.2 55.8 54.1 54.9	42 40	-17.3	19 00 02	51.8 51.9	52.9 53.0	37 37	-17.0	2I 00 02	40.9 40.0	37.8 38.1	45 46	-23.4	23 00 02	45.8 45.6	42.3 43.I	38 37	-22. I
04 06	54.3 55.3 54.1 55.5	4I 4I		04 06	52.4 52.8	53.8 54.2	37 38 38		04 06	40.7	38.4 39.0	45 44		04.5 06	45·3 45.0	43.2 43.3	37 37	
<b>o</b> 8	54.5 55.3	41	;	08 10	53.0 52.7	54.7 54.1	39 38 38		08	4I.0 4I.0	39.9 40.0	43 43		08 10	45.0 44.8	43.0 43.8	37 38 37	
10 12	54.5 55.4 53.8 54.7	41 40		12	52.6	54.0	38	77.0	12	40.8	39.4	44		12.5	44.3	42.5	39 38	
14 16	53.9 54.7 54.0 54.6	40	-I7.I	14 16	52.0	52.0	37 35	-17.0	14 16	40.5 41.0	39.2 38.8	44 44	-23.2	14 16	44. I 43.7	43.0 43.7	38 38 38	-22.0
18 20	55.1 56.0 55.2 56.0	42 42		18 20	50.8 50.1	51.7 50.9	35 34		18 20	40.7	37 · 4 37 · 0	46 46		18 20	44.0 Over	43.6 rľk'd	38	
22 24	52.9 54.1	38 38 38		22 24	49.7 49.7	50.5	33 33		22 24	40.5	37.8 38.0	45 45		22 24	40.8	40.2 42.3	43 41	
<u>26</u>	52.9 53.5 54.9 55.3 54.7 55.2	41		26 28	48.1 48.0	48.8	30		26 28	40.2	37.8	46		26	48.5	47.8	31	
28 30	53.2 54.4	41 39	-17.0	30	46.0	46.0	30 27	-17.0	30	39.9 38.9 38.8	39.0 38.4	45 46	-23.0	28 30	49.0 49.0 49.8	47 · 4 47 · 3	31 31	-22.
32	53·3 54·5 53·2 54·2	39		32 34	44.0 42.I	45.0 50.7	24 22 27		32 34	38. I	37·4· 37.8	47 47		32 34	49.8	48.2 48.1	30 30	
34 36 38	52.2 53.2	37	1	34 36* 38*	49.5 27.6	59.8 48.7	24 II 57		36 38	38.9	38.3 38.2	46 46		34 36 38	50.0	48.0 48.2	30 30	
40	52.5 53.8	38		40	6.7	32.0	57 28		40	40.3	38.2	45 46		40	Lo	ost	30	
42 44	52.8 53.7 52.5 53.1	39 37 37 38 38 37 37	-16.9	42* 44 46 48 50	36.3 27.6	73.8 52.6	28 24 05	-I7.0	42 44	39. I 39. 5	38.8 38.9	46 45 46	-22.9	42 44	acco	n ount		
46	52.7 53.0	37 37		46 48	11.2 23.7	34. I 37.8	23 37 50		44 46 48	39. I 39. I	38.9 38.4	46 46		44 46 48	o he	of ear		
40 50	52.3 53.1 51.9 52.8	37 37 36		50	17.5	38. I	23 46		50	39.8	38.4	45		50	46.9	45.3	34	
52 54	51.2 52.0 51.1 51.9	30 35		52* 54	41.4 28.7	74·3 48·5 67·8	25 IO 24 40		52 54 56	40.4 40.0	39.0 38.6	44 45		54	43.0 41.8	38.7	40	
42 44 46 48 50 52 54 56 58	50.8 51.8 50.7 51.8	35 35 35		52* 54 56 58	50.2 71.9	67.8 76.8	25 12 36		56 58	40.2	39. I 39. 0	45 45		52 54 56 58	37·5 39·9	33.I	51 50	
20	30.7 31.0	33		20 00*	13.1	21.3	II	-17.0	-	"	-			24 00		31.2	51	-22.

Correction to local mean time is — 47s.

Torsion head at 15h 30m read 30° and at the end read the same.

Observer—R. R. T.

Correction to local mean time is — Im I2s. Torsion head at 19h 30m read  $28^{\circ}$  and at the end read the same. Observer—J. V.

# SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

### Tabulation of magnetic declinations observed at Teplits Bay-Continued

Sunda	ay, February	14, 1904		Magn	et scale erect	Sund	ay, February	14, 1904		Magnet s	cale inv	erted
nr'r , me	Scale readings Left Right	East decli-, Temp. nation, C.	Chr'r time	Scale readings Left Right	East decli- Temp.	Chr'r time	Scale readings Left Right	East declination, Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Ten C.
m	d d	0 / 0	h m	d d	0 , 0	h m	d đ	0,0	h m	d d	0 ,	-
00	39.7 42.0	22 49	2 00	31.9 32.1 34.8 34.9	22 35 -15.7	4 00.4	61.1 58.4	23 00	6 oo o2	45.5 45.0 40.0 38.0	23 23 32	-I3.
02 04	40.8 41.9	50 -19.0 51	02 04	34.8 34.9 37.0 37.4	44	02 04	61.0 58.5 61.5 59.0	23 00 22 59	04.4	·	31	
o6 o8	42.0 43.0	52	o6 o8	38.1 38.4 39.0 39.6	45	o6 o8	60.8 59.0	23 00	06 08	42.4 42.0 34.I 34.0	28 40	
10	41.8 43.0	52 50	10	39.8 40.2	47 48	10	58.8 57.0 58.0 56.1	03	IO	33.9 32.0	42	
12	42.2 42.7	52 53 -18.0	12	39.0 40.0 36.0 37.0	47 4215.2	12	60,6 59.0	00 01 -13.0	12   14.5	42.2 40.6	29 23 43	-13
14 16	43.0 43.8 42.9 43.6	53 -10.0	14 16	36.0 37.0 37.9 39.0	45	14 16	59.8 58.3 60.9 59.0	00 -13.0	16	21.8 20.9	24 00	-3
18	42.1 43.0	52	18	41.2 41.9	50	18	60.5 59.0	23 00	18	28.0 <i>a</i> 60.1 58.2	23 50 01	
20 22	40.8 41.5 39.9 40.8	50	20	40.4 41.0 40.3 <b>40.9</b>	49 49	20 22	63.0 61.8	22 56 54	22	50.1 49.2	16	
24	37.9 38.5	45	24 26	40.4 40.6 38.0 38.1	49 45	24 26	64.7 63.0	54	24 26	26.8 25.2	29	
26 28	42.8 43.5	53	28	37.0 38.0		28	62.1 60.9	57 22 59	28	36.1 34.8	53 38	
30	42.8 43.2	53 -17.7	30	37.8 38.0	45 44	30	59.1 58.1 57.5 56.8	23 02 -13.1	30	44.3 43.7 48.7 47.7	25 18	-13
32 34	41.9 42.9 43.6 44.4	52 54	32 34	37.1 37.6 37.7 37.9	44	32 34	57.5 56.8 59.0 58.2	04	32 34	57.0 48.0	II	
36	44.9 45.7	54 56 56	34 36 38	37.0 37.2	43 41	34 36 38	58.0 57.4	03	34 36 38	49.6 48.9	16 40	
38 40	44.1 45.8	56	40	35.4 35.6 34.2 34.2	39	38 40	58.5 58.0 58.7 57.8	02	40	35.0 33.1 34.2 33.0	41	
42	44.0 44.4	54	42	34.4 34.7	39	42	60.0 59.2	23 00	42	53.3 49.0 55.5 48.0	13	-13
44 46	42.3 42.8 41.3 41.8	52 -17.5 50	44 46	35.8 36.0 35.3 35.9	41 ~15.0	44 46	61.0 60.0	22 59 -I3.I 23 06	44 46 48	55.5 48.0 62.0 60.8	23 I2 22 57	'
48	40.7 41.0	49	48	34.0 34.5	39	48	56.0 54.0	07	48	63.0 61.5	56 56	-
50 52	41.9 42.0 45.2 45.8	51 57	50 52	35.8 36.0 36.0 36.8	41 42	50 52	55.7 53.8 52.0 50.4	08 13	50 52	63.1 61.1	46	1
54	46.0 46.9	57 58 56	54 56	36.0 36.2		54 56	51.9 49.7	14	54 56 58	67.8 66.5 63.0 61.8	48 56	
56 58	44.9 45.I 42.I 42.5	52	58	36.8 37.0 37.3 37.8	43 44	50	50.0 48.5 57.0 55.2	16 06	50	63.0 61.8	45	
00	39.0 39.2	46 -17.0	3 00	37.0 37.4	4414.9	5 00	57.0 55.1	06 -13.1	7 00	74.0 72.0 62.8 62.0	39	-13
02 04	37.I 37.4 35.8 36.0	44 41	02	37.1 37.3 36.9 37.1	44	02 04	59.0 57.2 60.2 58.9	02	02	62.8 62.0 53.9 51.9	22 56 23 II	
<b>o</b> 6	33.9 34.0	38	06	38.7 39.0	46	06	60.2 59.2	23 00	06	56.0 54.4	23 07	
10 80	32.0 32.5 32.5 32.8	30 36	08	36.0 36.8 37.2 37.9		08	61.7 60.9	22 5 <b>7</b> 54	08	61.4 59.8 62.8 60.3	22 59 22 57	
12	33.7 33.8	38	12	31.6 32.2	35	12	63.3 62.1	22 55	12	58.0 56.9	23 04	
14 16	33.8 34.0 32.9 33.1		14	29.6 30.1 31.9 32.0		14	57.8 56.9 54.1 53.0	23 04 -13.2	14 16	59.1 56.1 57.2 54.0	03 06	
18	31.7 31.9	35	18	35.4 35.5		18	54.5 54.0	09	18	53.0 52.9	11	
20 22	29.9 30.1 30.4 3I.0	32 33	20	36.5 36.9 36.9 37.3		20 22	56.0 55.9	06	20 22	57.6 55.7	05	
24	31.0 31.5	34	24	36.9 37.3		24	52.0 50.0		24	60.0 57.9	23 01	
20 28	33.2 33.7 34.9 35.1	38 40	26	37.5 38.0 36.8 37.7	44	26 28	50.2 48.8 46.0 45.2	16	20 28	63.1 61.8	22 56 52	
30	36.0 37.0	42 -16.3	30	35.2 30.0	41 -14.3	30	44.2 43.3	25 -13.2	30	63.0 62.0	22 55	-1
32 34	38.0 38.0 39.1 39.8	45 47	32	35.0 35.3 34.9 35.2		32	46.0 45.0 42.8 41.9	22 27	32 34	61.3 58.8 64.3 62.0	23 00	
34 36	40.8 40.9	49	36	34.0 34.9	39	36	43.2 42.1	27	36 38	72.0 72.0	40	)
38 40	40.1 40.2		38	34.4 35.0 35.0 35.3	40 40	38	41.0 40.0 45.0 43.5		38	71.9 70.0		
42	41.5 42.1	51	42	36.3 37.0	43	42	43.9 42.2	26	42	64.0 62.0	55	5
44 46	40.8 4I.0 39.9 40.3		44	38.0 39.1 42.3 42.9		44	44.0 43.8		44 46	65.0 62.9	53 54	
48	40.0 40.5	48	48	43.0 43.4	53	48	37.1 36.3	36	48	63.8 60.8	56	5
50	39.2 40.0 37.0 37.8		50 52	44.8 45.4	56 56	50 52	39.1 37.3 45.0 44.3		50 52.	60.1 60.1 5 62.2 61.2		7
54	34.0 35.0	39	54	45.9 46.2	57	54	47.0 46.1	21	54	61.9 61.0	22 57	7
52 54 56 58	32.0 32.2 30.8 31.2		56 58	46.2 47.0 46.9 48.0	22 58	54 56 58	43.0 42.2		54 56. 58	5 53 4 52.0 52.5	22 50	5
,,,	0=15		I,					1	8 00	62.8 59.9	52	

Observer-J. V.

Correction to local mean time is — 1m 40s. 90° torsion = 9.77. Torsion head at oh oom read 30° and at 9h 55m read 39°. Observer—J. V.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Mond	lay, February	15, 190	4			Magn	et scale	erect	Tues	day, Feb	ornary	7 16, 190	04		Ma	gnet s	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation.	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	Scal readir Left R	ngs	East decli- nation	Temp C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp C.
h m 8 oo*	d d 38.7 38.9	· ,		h m	d 31.6	d 35.8	0 ,	-20.5	h m	d		0 /	-25.8	h m	d 56.6	d 55·5	° ,	-23.4
02 04 06 08	36.7 36.9 34.6 39.0 36.1 40.1 35.8 39.4 25.9 29.1	23 33 30 32 31 15	-24.0	10 00 02 04 06 08	29.2 29.9 29.6 30.3	33.3 32.0 32.0 31.6	22 32 28 27 27 27	-20.5	02 04 06 08	68.7 6 57.9 57.1	66.8 66.7 54.8 54.8 56.8	21 54 21 55 22 13 13	-25.6	02 04 06 08	56.0 54.2 54.0 52.7	54.9 53.0 53.1 51.9	14 17 17 19	23.4
10 12	30.8 32.5	2I I7		10 12	34.I 35.9	35.0 37.2	33 36		I0 I2	50.6	49.6 47.0	22 26		I0 I2	52.8 54.0	51.9 52.8	19 17	
14 16	28.0 30.8 37.7 41.9	18 34	-23.4	14 16	31.1	31.9 31.5	28 27	-20.4	14 16	50.7	49.8 54.1	22 16	-25.5	14 16	52.6 55.9	52.6 55.0	19 14 12	-23.3
18 20 22 24	38.6 40.3 40.8 41.6 37.6 38.8 32.3 34.4	34 36 32 24		18 20 22 24	32.1 34.3 34.2 36.7	33·3 35·5 35·0 37·4	30 33 33 37		18 20 22 24	49.1 44.6	50.0 48.3 44.0 41.5	23 25 32 35		18 20 22 24	57.5 60.1 61.3 61.7	56.3 59.5 60.7 60.9	07 05 22 05	
26 28	32.2 34.4 32.2 34.8	24		26 28	36.5 26.9	38.0 38.5	37 30		26 28	42.7	42.0 40.0	35 38		24 26 28	66.0 56.2	65.5 56.0	21 58 22 13	
30 32 34	41.8 44.1 41.9 44.9 45.2 48.3	39 40 45	-22.8	30 32 34	31.9 34.2 39.5	33.2 34.9 40.1	30 33 41	-20.4	30 32 34	40.1	38.7 38.8 39.0	40 39 39	-25.0	30 32 34	61.0 62.1 59.3	60.6 61.4 58.0	06 04 09	-23.2
36 38	40.0 44.0 36.6 39.5	45 38 31 28		34 36 38 40	38.7 35.8 37.0	39.9 36.5 37.3	40 35 37		34 36 38 40	40.6 38.9	39.0 37.8 35.7	39 41 44		34 36 38 40	59.3 56.8 56.7 48.5	55.7 55.6 47.0	13 13 26	
40 42 44	34.8 36.2 36.2 38.1	27 30	-22.7	42 44 46	34·5 34·2	35.I 35.4	33 33	-20.4	42 44 46	36.9 39.7	35.6 38.1	44 40	-24.8	42	47.I 43.9	45.7 42.1	28 34	-23.2
44 46 48 50	41.2 45.0 37.9 42.7 35.3 38.8	39 35 30		48 50	34.0 34.9 35.4	34.8 35.6 39.2	33 34 37		48 50	37.4	39.7 36.0 36.7	37 44 43		44 46 48 50	45.0 43.6 41.7	43.0 42.0 40.2	32 34 37	
52 54 56 58	34.1 34.8 36.5 39.6	26 31		52 54 56	40.0 37.1 36.1	40.4 39.2 37.3	38 36		52 54 56	33.9	36.0 33.6 35.0	44 48 46		52 54 56	41.6 43.0 43.1	39.6 41.8 41.3	37 35 35	
58 9 <b>0</b> 0	39.2 44.0 41.2 44.1 44.3 46.5	37 38 43	-22.6	11 00	33·5 37·1	34.I 39.2	32 38 38	-20.3	58 13 00	37.0 40.3	36.5 38.8	44 39	-24.4	58 15 00	41.9	40.8 42.5	36 34	-23.1
02 04 06	35.2 37.9 33.4 34.9 40.8 41.5	29 25 36		02 04 06	37·5 36.0 36.5	38.0 36.9 36.8	36 36		02 04 06	46.4 39.7	40.1 45.5 38.9	37 29 39		02 04 06	42.7 43.0 44.0	41.1 41.6 42.7	35 35 33	
08 10	40.9 41.2 39.3 39.9	36 34 28		08 10 12	35·4 36·3 36·1	36.0 37.4 36.6	35 36 36		08 10 12	36.0 36.1	35.1 34.7 35.8	45 46 44		08 IO I2	43.9 42.6 41.6	42.6 40.9 40.0	33 36 37	
12 14 16	35.2 36.5 22.8 23.9 22.1 23.2	08 07	-22.2	14 16	37.8 42.0	38.5 43.1	38 45	-20.3	14 16	38.6 43.1	37·5 41.0	42 35	-24.0	14 16	39.8 39.1	38.5 37.9	40 41	
18 20 22	22.9 25.2 17.3 19.0 15.0 16.9	23 00 22 57		18 20 22	39.2 39.0 36.9	40.5 39.9 37.8	41 40 37		18 20 22	49.6	44.9 48.0 43.9	29 24 30		18 20 22	38.6 37.2	37.1 36.6 36.6	42 42 43	
24 26	10.1 11.2 8.9 10.1	48 47		24 26	38.8	39·4 39.8	40 41		24 <b>2</b> 6	42.I 40.0	40.5 38.0	36 40		24 26 28	37.8	36.7 37.3	43 42	
28* 30 32	34.9 42.0 33.0 38.7 32.8 38.6	39 35 35	-21.8	28 30 32	36.4 36.7 31.2	37.0 37.2 33.3	36 37 29	-20.3	28 30 32	42.8	38.9 41.9 42.0	39 35 34	-23.9	30 32	38.9 39.6 38.9	37.9 37.6 37.3	4I 4I 4I	-23.0
34 36	30.5 36.6 35.2 39.9	31		34 36	29.4 29.3	30.1 30.4	25 26		34 36	39.6 40.6	38.0 39.2	40 38 36		34 36 38	40.7 40.7 40.1	38.5 38.6	39 39 41	
38 40 42	41.7 47.0 41.2 46.8	48 48 46		38 40 42	40.3 42.2 36.9	42.0 43.1 38.0	43 46 37		38 40 42	45.6 47.5	41.0 43.9 46.2	31 28		40 42	39.6	37.2 37.0 37.2	4 <b>I</b> 4 <b>I</b>	
44 46 48	39.9 45.7 40.8 45.5 38.8 42.9	46 46 43	ar 2	44 46 48	35.0 34.3	36.2	34 33 37	-20.3	44 46 48	49.I 52.0	47·4 50.0 56.0	26 21 12	-23.8	44 46 48	37.8 40.8 41.4	36.2 38.9 39.6		
48 50 52	37.3 43.2 36.8 41.3 37.2 42.0	42 40 41	-21.0	50 52	36.2 34.6 33.0	35.8	34 30		50 52	62.1 65.6	60.0 64.0	22 <b>0</b> 5 21 59		50 52	41.7	39.6 38.9	37 39	
50 52 54 56 58	36.6 41.1 36.7 41.5	40 40		54 56 58	33.2 31.8 31.8	33.6 34.3 34.5	31 30 31		54 56 58	65.7 64.0 58.1	64.6 62.8 57.1	2I 59 22 02 II		54 56 58	39.9 40.2 41.1	37.4 38.3 39.2	40	)
58	34.3 40.0	37		12 00	37.0	34·5 4I·4	40	-20.I	30	5011	J, • •			16 00		40.9		-22.

Correction to local mean time is — Im 50s.

Torsion head at 7h 45m read 39° and at the end read the same.

Observer—H. H. N.

Correction to local mean time is — Im 51s.  $90^{\circ}$  torsion = 15.'3. Torsion head at 11h 25m read  $36^{\circ}$  and at 16h 26m read  $46^{\circ}$ . Observer—R. R. T.

#### SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Chr'r	Scale readings	East decli-	Тетр.	Chr'r	Scale readings	East decli-	Тетр.	Chr'r	Scale readings	East decli-	Тетр.	Chr'r	Sc read	ale	East decli-	Tem
time	Left Right	nation	C.	time	Left Righ	nation	C.	time	Left Right	nation	C.	time	İ	Right	nation	C.
ı m	d d	0 /	0	h m	d d	. ,	•	h m	d d	0 ,	0	h m	d	d	0 ,	-0.4
00 <b>*</b> 02	52.3 58.0 58.3 63.0	22 23 32	-27.I	2 00 02	57.8 58. 57.0 57.		-22.0	4 00 02	37.2 <i>a</i> 38.3 39.0	23 I2 I5	-19.6	6 00	40.0	.o <i>b</i> 41.5	22 49 31	-18.6
<b>0</b> 4 <b>0</b> 6	65.2 73.0	45 40		04 06	59.2 60. 61.2 62.			04 06	40.1 40.9 45.7 46.7	18 27		04 06	40.5 62.0	40.8	22 3I 23 04	
08	63.0 68.9	40 22 48		08	68.0 68. 56.5 56.	3 19		08	51.5 57.9 53.0 55.0	40 39		08 10*	76.5 36.3	77.0 46.6	23 27 24 17	
12*	52.1 60.9	23 00	,	12	58.8 59.	04		12	56.0 57.3	43		12	30.4	33.5	02	
14 16	56.1 63.0 58.2 64.0	05 07	-25.5	14 16	59.1 59. 58.3 58.	04	-21.6	14 16	57.0 58.4 62.0 64.0	45 53	-19.5	14 <b>*</b> 16	48.0 43.2	59.2 58.6	25 21	
18 20	63.0 68.6 68.3 76.2	15 25		18 20	58.8 59. 57.2 57.	04		18 20	61.5 64.0 61.9 64.6	53		18 20	66.0 65.5	77·3 70.0	54 48	-18.3
22	68.1 76.2	24 28		22	54.0 54.	5 22 57		22	65.0 67.3	53 58		22	62.7	70. I	45	20.5
24 26	71.1 78.0 69.6 75.0	28 25		24 26	56.2 58. 58.1 58.			24 26	64.6 67.3	23 58 24 04		24 26	64.3 73.1	70.0 78.1	24 47 25 00	
28 30	68.2 73.2 61.8 68.0	22 13	-25.0	28 30	67.0 67.   74.0 74.	_	-20.9	28 30**	74.0 76.0 58.8 60.1	12 24 I3	-19.2	28* 30	36.0 36.1	50.5 49.0	24 03 24 02	-18.1
32	58.9 63.2	07	-3.0	3 <b>2</b> *	49.8 54.	36		32	48.5 49.1 49.0 50.3	23 56 23 58		32	26.3	44.2 46.0	23 51	
34 36	54.8 58.0	03 23 00		34 36	49.5 52.	3 34		34 36	56.6 59.5	24 II		34 36 38	33.0 35.5	49.0	23 57 24 02	
38 40	49.0 53.0 46.0 48.8	22 51 46		38 40	46:1 49. 47.6 50.			38 40	58.0 60.3 53.2 57.9	12 24 07		38 40	20.5 17.0	35.0 31.1	23 39 33	
42	43.0 45.7 38.2 40.9	41 33	-24.7	42	45.3 47. 40.8 42.	27		42	47.9 51.0 42.8 45.4	23 57 49	-19.1	42	9.0 42.9	17.5 45.0	16 23 03	-18.0
44 46	36.5 39.0	30	24.7	44 46	36.0 38.	12	20.0	44 46 48	41.0 45.0	47	19.1	44* 46 48	32.1	35.0	22 47	10.0
48 50.5	38.8 40.2 38.8 41.1	33 34		48 50	34.1 36. 34.0 37.	0 10		50	39.I 43.0 37.0 40.9	44 41		50	34.0 40.0	36.0 40.6	49 58	
52 54	41.0 43.0 47.9 49.8	37 22 48		52 54	33.0 35. 29.5 32.			52 54	34.5 37.0 33.0 34.8	36 33		52 54	40.8	42.0 37.9	59 53	
56 58	Lost 55.8 58.5	23 01		56 58	28.9 32. 31.6 33.	02		54 56 58	29.5 32.0 27.5 30.1	33 28 25		54 56 58	30.0	30.0 29.1	4I 39	
00	60.0 61.0	23 06	-24.2	3 00	32.I 34.	3 07	-20.5	5 00	23.0 26.0	18	-19.0	7 00	31.0	33.I	44	-18.0
02 04	55.8 55.8 45.9 46.1	<b>22</b> 59 44		02 04	28.9 31. 21.6 28.			02 04	15.2 16.5 4.4 5.9	23 04 22 48		02 04	30.2	37.8 38.9	48 54	
об 08	44.0 44.8 38.0 <i>b</i>	41 31		об <b>08</b>	24.0 26. 21.5 23.			o6*	50.0 56.1 47.8 52.3	50 46		o6 o8	33·5 27.0	36.0 27.8	49 37	
10	25.6 26.9	12		10 12	21.0 23.	2 49		10 12	49.7 53.0 13.1 17.0	22 48 21 50		10 12	31.0	33.0	44	
12 14	29.0 31.0 34.7 37.2	28	-23.9	14	23.1 25. 25.9 28.	2 22 57	-20.3	14	40.3 53.0	22 47	-19.0	14	35.0 33.7	35·7 34.0	50 47	-18.0
16 18	41.2 43.5	38 40		18	28.7 30. 34.5 37.			16 18	48.2 51.9 48.3 52.0	46 46		18	30.0	30.4 37.2	42 52	
20 22	41.8 43.9 39.0 41.2	40 38 34		20 22	36.6 38. 26.1 28.			20 22	43.5 47.0 36.7 41.0	38 28		20 22	30.0 38.0	41.0 40.0	57 55	
24	40.3 42.8	36		24	27.0 28.	22 58		24 26	38.1 42.5	30		24	29.8	32.9	43	
20 28	40.1 42.1 40.8 43.0	36		20 28	29.9 32. 22.8 24.	1 22 51		28	46.0 51.2 61.9 64.0	22 43 23 06		26 28	23.0 26.9	25.2 28.0	32 37	
30 32	48.5 51.0 61.0 62.9	22 49 23 08	-23.0	30 32	20.0 21. 19.0 20.		-20.I	30 32	68.9 71.8 60.5 65.0	23 05	-18.9	30 32	28.2 30.0	29.6 30.1	40 41	-18.0
34 36 38	63.0 64.0 55.9 56.0	23 II 22 59		34 36	16.0 17. 17.0 18.	3 41		34 36.5	55.9 57.2 53.0 55.0	22 56 22 51		34 36	32.5 33.6	33.3	46	
38	54.9 55.0	<b>2</b> 2 58		38	22.2 22.	50		38.5	63.0 64.1	23 07		38	34.6	34.0 36.0	47 50	
40 42	56.3 56.8 61.1a	23 00 07		40 42	27.0 30. 18.0 20.	9 44		40 42	71.5 73.5 62.7 64.2	21 06		40 42	27.0 20.9	27.1 22.6	37 28	
44 46	62.3 62.8 66.8 67.0	09 16	-22.6	44 46	18.8 20. 23.2 24.		-20.I	44 46	64.7 66.0 55.2 57.2	23 IO 22 55	-18.7	44 46	13.0 8.8	17.0 13.0	18	
48	68.o 68.8	19		48	24.3 25.	22 53		48 50	44.3 47.0 50.5 51.0	38		48	16.o	21.9	24 22 56	
50 52	67.0 67.2 66.2 66.6	17		50 52	30.2 31. 30.0 30.	3 02		52	45.0b	47 38		50 52	36.6 49.5	41.6 54.0	22 50 23 15	
54 56 58	66.2 66.6 65.2 66.0 60.0 60.9	16 14 06		54 56	30.4 30. 32.0 32.			54 56 58	42.0 <i>a</i> 39.5 <i>a</i> 53.2 55.9	33 29		54 56 58	44.5 23.8	51.9 29.2	23 IO 22 36	

Observer-J. V.

Observers—J. V. and W. J. P., who alternated from 7h 48m to 8h com.

	G1-	T25				1.									_		T*1	
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left		East decli- nation	Tem C.
ı m	d d	0 ,		h m	ď	ď	0 /	•	h m	d	d	0 ,	0	h m	d	d	0 /	0
00 02	50.1 57.0 Overl'k'd	23 18	-I7.4	10 00	25.6 22.0	30.8 28.0	22 35 30	-17.3	12 00 02.5	29.9 28.3	31.2 29.1	22 39 36	-17.I	14 00 02	50.8 51.6	53.2 53.8	22 23 24	-16.2
04 06*2	53.6 56.0	20		04 06	21.9	26.8	29		04	25.2	25.7	31		04	53.6	54.5	26	
08	33.8 42.6 37.0 42.8	54 57		08	24.5 22.3	28.6 26.0	33 29 28		об <b>08</b>	21.8	22.3 28.3	26 32		06 08	54.7 56.2	56.3 57.2	28 30	
10 12	25.3 31.3 26.6 30.8	57 38		10 12	21.0	25.3 28.3	28 32		10	26.3	31.0	36		10	54.1	55.8	27	
14	35.I 40.5	39 53	-17.2	14	23.4 23.3	29.7	33	-17.4	12 14	20.6	24.8 29.5	27 33	-17.1	I2 I4	53.4 56.1	54·3 58.0	26 31	-16.
18 16	30.7 37.2 25.8 31.3	47	:	16	25.3 19.0	32.9 26.0	37		16	25.6	34.1	38	-,	16	56.1	58.1	31	
20	25.8 31.3 19.5 22.6	39 27	i	20	20.0	27.6	29		18	20.0 16.0	30.0 25.3	30 24		18 20	56.5 56.4	58.0 58.4	31 31	
22	11.0 12.2 9.9 12.1	I2 II		22 24.5	22.6	31.2 31.2	33 34		22	17.5	26.0	25		22	55.2	56.8	29	
24 26	7.6 12.0	23 09		26	23.9 22.8	28.2	31		24 26	19.3	28.3 24.1	29 22		24 26	58.3	59·4 60.5	34 35	
28* 30	39.2 42.0 31.0 32.8	22 55	-17.0	28 30	26.0 25.3	30.8 31.6	<b>3</b> 6	-17.3	28	14.0	22.0	19		28	63.2	63.8	41	
32	22.2 25.3	28	17.0	32	24.3	29.3	33	17.3	30 32*	8.8	16.6 46.0	04	-16.8	30 32	57.0	59.2 53.0	32 23	-16.
34 36	29.3 35.3 42.4 45.6	22 42 23 00		34 36 38	24.7 25.5	30.5	36 35		34	38.9	50.3	11	ļ	34	52.2	54.1	24 26	
<b>3</b> 8	<b>3</b> 6.6 39.8	22 51	1	38	25.3	30.2	35		36 38	40.1 45.9	49.0 55.6	11 21		36 38	53·3 57·1	55.2 58.0	20 32	
40 42	31.8 34.8 30.5 33.8	44 42	1	40 42	26.6 26.0	30.8	36 35		40	48.9	57.6	25		40	62.2	62.8	39	
44	30.5 33.6	41	-17.0	44	24.9	27.6	32	-17.2	42	49.8 49.7	57·4 59.1	25 27	-16.0	42 44	58.6 47.6	59.3 48.8	34 17	-16.
44 46 48	29.0 32.3 28.4 30.5	39		44 46 48	28.2 28.8	31.1	38 38		44 46	54.2	60.8	32	-315	44 46	41.0	42.2	<b>o</b> 6	
50	27.4 29.4	37 36		50	27.3	30.0	36		48 50	58.5 52.7	65.0 59.9	38 30		48 50	51.2 52.4	53·3 55·0	23 26	
<b>50</b> <b>52</b> 54 56	27.6 30.0 29.0 30.3	36 38	İ	52 54	21.0 23.6	24.0 28.5	26 32		52 54 56	50.4	57.0	26		52	50.0	51.4	21	
6	31.6 34.2	43		54 56	24.3	29.5	33		54 56	53.0 48.3	54.5	30 22		54 56	49.1	50.0 52.2	19 22	
8	31.2 33.6 31.0 33.2	42 42	-17.1	58	24.6 28.0	30.3 33.6	34 40	-17.2	58	50.8	57.2	26 02	-16. I	58	50.3 49.8	52.0 50.8	2I 20	-15.
12	30.6 33.6	42		02	29.0	34.0	41		13 00 02	35·5 42.0	42.4 46.5	10	-10.1	15 00 02	53.3	54.2	26	-15.
14 16	31.0 33.3 24.0 26.0	42 30		04	25.6 27.4	30.0 31.6	35 38		04 06	42.7 50.2	49.I 54.2	13		04 06	54.7 56.5	55.6 57.0	28 30	
<b>8</b>	24.3 26.0	31		08	24.6	28.4	33		08	54.6	60.0	23 31		08	61.	.00	37	
IO I2	27.I 27.6 28.7 29.7	34 37		I0 I2	24.5 27.2	27.6 33.3	32		10 12	50.2 44.9	55·4 50.2	24 16		I0 I2	65.7	66.7 61.3	45 37	-15.
14	28.3 31.3	37 38	-17.2	14	29.7	35.2	42		14	45.6	49.0	16	-16.2	14	59.5	60.0	35 38	1-13.
16 18	26.1 27.3 19.3 25.3	33 26		16	27.4 22.4	33·4 28.8	39 31	- <b>J</b> 7.I	16 18	42.5 46.2	46.0 50.0	10 17		16 18	61.8	62.0 60.2	38 35	
20	17.0 24.3	24		20	22.3	23.8	27 38		20	48.2	52.8	20		20	56.5	57. I	30	
22 24	19.5 20.3 14.9 22.9	27 21		22	27.3 24.3	32.9 20.0	34		22 24	45.6 48.0	51.0	17 20		22	59.1		37	
26	20.0 21.8	24		24 26	25.0	29.9 29.6 32.8	34		26	50.6	54.8	24		24 26 28	67.9	59.1 68.1	34 48	
28 30	35.0 42.0 25.3 27.3	52 33	-17.2	28 30	28.3 26.6	31.3	39 36	-17. I	28 30	49.1 53.8	54.0 57.0	22	-16. I	28 30	62.2 61.9	62.6 62.3	39 39 32	-15
32	24.5 29.5	34	7	32	27.3	31.3	37		32	52.0	50.0	28 26	10.1	32	57.9	58.1	32	-3
14 16 8	36.0 40.8	51 50		34 36 38	27.3 20.4	31.1 32.6	37 40		34 36 38 40	53.4	58.0 59.1	29 30		34 36 38	62.4	63.4 63.1	40	
8	35.5 39.0 21.8 25.6	28		38	29.4 29.8	33.3	41		38	52.7	57.6	28		38	61.4	61.4	40 38	
po	20.8 25.0 23.0 28.0	27 31		40 42	26.2 29.0	29.9 31.0	35 38		40	50.2	60.0 63.5	32 38		40 42	62.5	62.7 60.9	39 37	
2  4	22.3 30.3	32 38	-17.3	44 46	31.5	33.8	42	-I7.I	44	58.1	61.4	35	-16. т	44	60.7 60.1	60.3	36	<b>-I5</b>
6	26.6 33.2	38		46 48	31.3 27.3	33.6 29.5	42 36		42 44 46 48 50 52 54 56	53.4 54.5 52.7 56.2 59.8 58.1 57.8 54.8	59.8 57.2	34 29		44 46 48	56.2 56.0	56.9 57.1	30	
50	31.6 37.3 28.5 31.6	45 38		50	29.7	31.1	39		50	51.0	54.0	24		50	56.1	57.2	30	2
44 46 48 50 52 54 56 58	23.6 28.6	32		52	24.3 26.3	25.8 28.4	30 34		52	52.I 52.0	54·7	25 26		52 54	55.0	56.0 55.6	28	,
54 56	21.6 28.0 23.8 30.0	30 33		54 56 58	30.1	31.6 32.6	40		56	53.5	55·7 55·5 54.6	27		54 56 58	54.2 55.3 54.2	56.8 56.2	27 29 28	

Observer-W. J. P.

Observers—J. W. P. and R. W. P., who alternated from 12h 26m to 12h 32m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wed	nesday, Febr	uary 17,	1904			Magne	et scale	erect	Wedi	nesday, Febr	uary 17,	1904			Magne	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation.	Temp. C.	Chr'r time	Sc read Left		East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation.	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	T'emī C.
h m	đ đ	0 ,	0	h m	đ		· ,	•	h m	d d	0 ,	0	h m	d	d	0 ,	•
16 00 02	55.6 57.8 52.2 54.2	22 30 25	-15.0	18 00	69.0	70.0 70.9	22 50 51	12.4	20 00 02	53.9 58.0 52.2 56.2	22 29 26	-12.0	22 00 02	61.0 63.0	67.0	22 27 22 26	-11.3
04 06	45.8 48.3 45.7 48.8	15 15		04 06	71.0	72.2 73.2	54 55		04 06	52.I 55.9 52.I 55.8	26 26		04* 06	55.2 21.3	66.4 53.0	23 00 22 23	
08 10	45.9 48.8	16		08	70.2	71.0	52		08	52.2 55.9 52.1 56.1	26 26		08 10*	10.7	48.8	22 II 2I 54	
12	44.3 47.7 48.3 51.7	13 20		10 12	71.0 71.2	71.1 71.8	53 54		12	52.2 56.3	26		12*	30.0	69.3	22 20	
14 16	50.0 53.1 48.3 51.2			14 16	70.0 68.8	71.0 69.1	40	-12.3	14 16	51.6 55.8 50.3 54.9	26 24	-12.0	14 16*	32.9 31.9	68.1 52.8	22 22 23 52	-11.3
18 20	52.4 54.8 55.6 57.2			18 20	67.8	67.8 65.8	48		18	49.3 53.0 48.3 51.8	2I 20		18 20	50.5 I4.I	74·7 37·3	24 23 23 26	
22	56.1 57.5	30	1	22	67.2	68.8	44 48		22 24	48.0 51.1 46.9 49.7	19 17		22 24	14.8	36.8 43.9	26 38	
24 26	54.2 55.7 55.1 56.2	28		24 26	69.1 68.8	70.7 69.9	51 50		26	45.0 48.1	14		26	21.9	40.9	34	
28 30	55.7 56.9 54.8 55.9	28	-14.0	28 30	66.7	67.2 65.2	46 43	-I2.2	28 30	45.4 48.2 45.7 48.9	15 16	-12.0	28 30*	9.I 32.7	25.2 49.6	23 I2 22 48	-I.I.3
32 34	56.1 57.6 55.6 56.1	30	-	32	65.1 67.7		44 48		32 34	42.7 47.0 42.I 47.2	12		32 34	23.I 20.4	39·3 36.2	32 28	
36	56.0 57.2	30		34 36	66. ī	67.0	46		34 36 38	39.2 44.5 31.7 36.9	22 07 21 55		34 36 38	18.9	34.0	24 25	
38 40	56.5 57.8 56.1 58.1	31		38 40	65.8 66.0	66.8	45 45		40	35.9 39.8	22 00		40	19.8	33.3	25	
42 44	57.4 59.4 59.1 60.9		-13.7	42 44	66.2	68.0 67.1	47 46	I2. I	42 44 46	34.9 38.9 32.0 37.8	56	-12.0	42 44	20.4	33.8 34.9	26 28	-11.4
44 46 48	60.2 61.2 61.1 61.8	36	-5.7	44 46 48	65.3	66.3 64.2	44		46 48	31.8 39.2	21 57		44 46 48 50	22.4 22.6	34.0 33.9	27 27	
50	62.7 64.0	41		50 52	63.3	64.2	4I 4I		50 52	drif			50 52	24.I 24.8	35.3 36.1	30 31	
52 54	64.9 65.0	41		54	64.2	64.8 65.0	42 42		54 54	Snow drift			54 56	26.9	37.8	34	
56 58	62.3 62.8 63.3			56 58	64.0	65.0 65.3	42 43		54 56 58				50	30.9	37.8 40.6	34 39	
7 00 02	62.7 63.0	40	-13.5	19 00	61.7 59.3	62.8	39	-I2.I	2I 00 02	36.6 38.1 37.6 41.9	22 00 04	-11.7	23 00	32.I 34.2	40.8	40 43	-11.4
04	65.8 66.2	45	1	04	60.1	60.8	35 36		04* 06	8.0 36.8 30.8 55.9	22 50		04 06	35.9 32.9	43.I 38.7	45	
o6 o8	64.9 65.2			06 08	63.3		39 41		o8				08	33.2	40.2	41	
10 12	63.2 64.0 64.1 65.3			I0 I2	59.3		39 35		I0*	10.7 50.4 33.9 35.1	22 29 29		I0 I2	36.3	43·3 37·2	46 36	
14 16	66.9 67.9 67.0 67.9	47	-13.0	14	57.9 58.1	58.5	32	-12.0	14 16	33.9 35.1 33.2 33.9		-11.7	14 16	29.3 33.2	35.8 39.1	34 40	-11.4
18	65.7 66.7	45		18	61.0	61.8	33 38		18 20	31.9 34.7 60.0a	22 28		18 20	32.3	38.1 39.1	38	
20 22	65.2 66.0	45	1	20 22	59.8		35 34	ì	22*	29.5 70.0	23 09 25 27		22	34.2 32.7	37.4	40 38	
24 26	66.2 67.2		1	24 26	59.7	60.6 66.4	36 36	1	24 26*	Lost 42.9 56.5 40.8 45.8	23 42		24 26	34.0	36.8 38.2	37 40	
28	65.0 66.0 66.5 67.8	45		28	54.9 54.3	65.9	36 34	-12.0	28* 30*	40.8 45.8	2I 45 20 40	-11.6	28 30	35.I 34.3	39.0 39.0	4I 40	
30 32	68.1 68.8	49		30 32	54.6	63.8	34	1	32* 34*	61.2 69.9 10.8 19.1	23 06 22 46		32	25.I 23.0	29.9 26.6	26 22	
34 36 38	68.3 69.8 66.2 67.7	46		34 36	54.4	63. і	33 34	ļ	11 36	69.3 71.7	24 14		34 36 38 40	25.5	28.8	26	
3 <b>8</b> 40	66.7 68.2	47 49		38 40	56.2 55.3			1	38 40	15.9 21.9	22 53		38	27.2 28.8	30.4 31.6	28 30	
42	68.8 70.2	50	1	42	55.7 56.5	62.1	. 34	-T2 C	42* 44	58.1 71.9 47.2 60.1	26	-11.4	42	29.8 29.0	32.7 31.9	32 31	
44 46 48	70.5 72.2 69.9 71.3	52	İ	44 46	55.7	61.3	33	-12.0	44 46	46.1 55.8	04		44 46 48	28.3	31.2	30	i
48 50	70.6 72.0	53		48 50	53.0	58.8	29 30		48 50	44.9 55.1 48.7 57.8	08		50	28.3 29.8	31.4 32.7	30 32	
52	72.7 73.8	22 56		52	51.1 52.0	56.8	26 26	1	52 54	50.4 59.9 56.1 64.5	11		52	31.8	34.1 34.2	35 35	
50 52 54 56 58	74.7 76.1 72.1 73.0	22 55		54 56	54.6	58.8	30		54 56 58	57.8 65.8 60.1 68.8	22 26		54 56 58	31.7	32.3	33	
58	71.1 72.2	54		58	54.7	58.9	30		50	00.1 00.0	20		24 00	32.0 32.7	33·5 33·7	34 35	

Observers—R. W. P. and R. R. T., who alternated from 16h oom to 16h o2m.

Correction to local mean time is — Im 55s. Torsion head at oh oom read 36° and at the end read the same. Observer—R. R. T.

#### MAGNETIC OBSERVATIONS

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Thur	sday, Februa	ry 18, 19	904		M	agnet s	cale inv	erted	Frid	ay, Fe	bruary	19, 190	4			Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation.	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca read	ngs	East decli- nation	Temp C.
h m	d d	0 ,	0	h m	d	d	0 ,	0	h m	đ	d	,	0	h m	d	d	0 ,	0
6 00	40.2 37.0 39.9 36.0	22 38 39 38	-22.4	18 00	36.5 38.2	34.7 36.0	22 42 40	-20.7	20 00 02	37.0 36.8	37.2 37.1	22 33	-26.1	22 00 02	39.I 38.8	39·3 38.8	22 37 36	-23.0
04 06	40.2 36.9 40.8 37.2	38 37	·	04 06	40.4 39.9	38.8 38.7	36 37	1	04 06	37.0 36.9	37.4	33		04 06	39.2 39.4	39.4 39.8	37 37	'
08	40.3 37.0	38		08	39.9	38.8	37		08	36.8	37·3 37·4	33		o8	39.7	40.2	37 38	ı
10 12	41.2 37.8 41.9 38.2	36 36	1	IO I2	39.7 39.5	38.9 38.4	37 37		10 12	36.0 37.2	36.3 37.8	32 34		IO I2	39.9 40.0	40.5	38 38	1
14	40.7 37.5	37	-22.2	14	38.5	37.2	39	-20.7	14	38.0	39.0	35	-25.8	14	41.0	41.8	40	-22.9
16 18	40.8 37.8 42.8 40.0	37 33		16 18	38.I 40.0	37.0 39.0	39 36		16 18	40.1 39.7	40.7 40.0	35 38 38		16 18	4I.0 40.I	41.5	40 38	I
20	42.3 40.2	34		20	40.0	38.2	37 38		20	39.0	39.5	37		20	40.0	40.5	38	
22 24	41.8 39.7	34	9	22 24	39.0 37.8	37·3 36·7	38		22 24	40. I 30. 0	40.9 39.7	39 37		22 24	40.9	4I.3 4I.5	40 40	
24 26	42.0 40.0	34		24 26	37.8	36.7	40		26	38.9	39.0	36		24 26	40.8	41.0	30	1
28 30	41.8 39.4	35 35	-22.0	28 30	37.8 37.8	36.2 36.1	40 40	-20.5	28 30	38.9	39.2 39.7	36 37	-25.4	28 30	40.3 39.7	40.4	38 38	-22.5
32	41.1 38.8	36		32	36.0	35.I	42		32	39.0	39.7	37		32	39.0 38.4	39.3 38.9	36 36	i
34 36	40.9 38.8	36		34 36	35.8 34.8	35.2 34.3	43 44		34 36	39.1	39.9 39.0	37 36		34 36 38	38.3	38.9	36	j
38	42.4 40.1	34		38 40	35.2		43		38 40	38.4	39.0 38.0	36		38 40	39.0 39.5	39.2 40.0	36	
40 42	42.2 40.1 42.3 40.7	34 33		42	33.2		45 46		42	37.9 40.0	40.I	34 38 38 38		42	39.8	40.0	37 38	
44 46	42.9 4I.0 43.I 42.0	33	-21.9	44 46 48	33·4 34·0		46 45	-20.4	44 46	40.I	40.6	38	-25.0	44 46	40.0	40.2 41.0	38 39	
48	43.8 42.4	31		48	33.8	32.2	46	1	48	40.3	40.9	. 39		48	40.5	41.2	39	
50 52	43.8 42.2 43.6 42.1	31	:	50 52	32.8	.0a 32.8	51 47	-	50 52	39.3		37 37		50 52	40.8	4I.3 4I.2	39 39	
54 56	45.2 44.1	28	-	54	33.0	32.8	47		52 54 56	38.7	39.1	37 36		54 56	40.5	41.0	39 38	
56 58	44.2 43.2	30		56 58	34.2 35.5	34.9	45 43		50 58	39.2 39.3	39.9 39.8	37	1	58	40.1 40.4	40.8 40.8	39	
7 00	43.8 43.0	30	-21.3	19 00	35-3	34.8	43	-20.2	21 00	40.0	40.3		-24.8	23 00	40.5	40.9 41.9	39 40	
02 04	43.2 42.5	31 32	,	02 04	37.2	36.2 36.8	41 40		02 04	40.4	40.9	39 38	,	04	40.8	41.1	39	
<b>o</b> 6	42.8 42.2	32		06 08	37.9 39.8 39.6	39.I 39.0	36		06 08	40.5 40.1	40.9 40.3	30		06	40.7	40.9 41.0	39	
08 10	43.I 42.4 42.9 42.2	3I 32		, 10	, 39.8	38.9	37		10	40.0	40.T	38 38		10	40.7	40.9	39	
12	43.2 42.6	31	-2I.I	I2 I4	38.9	38.0 38.2	38 37	-20.0	12 14	30.2 38.7	39.6 3 <b>8.</b> 9	37	-24.3	12 14	40.0	40.4 42.0	38	
14 16	43.7 42.5 42.6 41.3	33	-21.1	16	39.7	38.2	37	1	16	38.2	38.7	35	1 24.3	16	30.0	39.9	37	:
18	41.8 40.8 40.8 39.6	34 35		18	40.1	38.8	36 36		18 20	38.9				18 20	38.8	39.2 39.2	37 36 36	
20 22	39.9 38.6	37		22	40.8	39.2	35		22	39.6	40.0	38		22	38.3	39.I	36	
24 26	38.2 37.0 38.3 37.0	39 39	1	24 26	40.I 39.0	38.8 38.0	36 38		24 26	39.6	40.0 39.7	38 37		24 26	38.5	39.1 39.5	37	
28	35.6 35.0	43	1 1	28	39.1	38. I	38	20.0	28	39.9	40.0	37 38 38	01.0	28	40.5	40.9 41.5	39	)
30 32	36.2 35.8 35.7 35.0	42 43	-21.0	30 32	40.9 40.1	39·3 38·8	35 36	20.0	30 32	39.8		37	-24.0	30	41.4	41.5	40	
34	35.9 35.2	43		34	38.0	37.0	39		34	39.7 39.6	40.0	37 38 38		34 36	41.6	41.7 41.2	40	
34 36 <b>38</b>	36.9 36.2 36.7 36.1	41		34 36 38	37.I 37.2	36.0	4I 4I		36 38	39.0	39.1	36	;	38	40.1	40.3	38	3
40	33.5 33.0	46		40	39.2	38.8	37		40	38.7	30.0	36		40 42	39.3 39.1	39.4 39.1	37 36	7
42	33.0 32.0 31.8 30.2	47 50	-20.9	42 44	41.0 42.1	40.I 4I.I	35 33	-20.0	42 44	38.4 38.8	39.0	35 36	-23.5	44 46	39.4	30.5	37	7 -21.
46	31.6 29.2	51		44 46	42.9	42.2	32		44 46 48	38.7	38.9	36		46 48	39·4 39·5	39.8 40.0	37	7
48	29.8 27.2 26.2	54 56		48 50	41.9 40.9	41.0 39.9	33 35		50	39.2	39.4	37		50	39.8	40.1	38	3
52	29.6 27.8	53		52	38.5	38.0	35 38		52	39.2 39.1	39.8 39.5	38 37		52 54	40.0		35	S
44 46 48 50 52 54 56 58	32.0 30.2 33.8 32.2	49 47		54 56 58	40.9	40.7 41.2	34 32		54 56 58	39.0	39.2	36		54 56 58	40.7	40.9	39	9
58	35.9 34.0	44		58 20 00	44.9 48.8	44.1 48.0	28	-20.0	58	39.1	39.3	37		24 00	40.2			

Correction to local mean time is — 2m oos.

Torsion head at 15h 35m read 36° and at the end read the same.

Observer—R. R. T.

Correction to local mean time is — 2m 15s. Torsion head at 19h 25m read 36° and at the end read the same, Observer—J. V.

							1	<del></del>					1	11	1		1	1
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	cale dings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings . Right	East decli- nation	Tem, C.
n m	d d	· ,	0	h m	đ	d	0 ,	0	h m	d	d	· ,	g	h m	d	d	• ,	•
00*	45.9 45.2 44.8 44.0	22 38	-18.0	2 00	38.9	37.5	22 50	-16.2	4 00*	50.1	52.0	22 51	-14.9	6 00	52.3	55.4	22 55	-14.2
02 04	44.8 44.0	40 43	ļ	02 04	40.3	38.7 39.0	48 48		02 04	49.9	51.8 51.2	50 49		02 04	50.9	55.4 55.8	54 54	
об	44.2 43.1	41		06	40.8	39.9	46		06	51.0	54.9	54		06	51.1	56.0	55	
08 10	45.I 44.2 44.0 43.0	40 41		08 10	41.2	39·3 39·9	47 46		08 10	52.2 53.5	55.8 56.0	55 56		08 10	51.3 51.1	56.0 55.0	55 54	
12	43.8 42.8	42		12	41.8	39.9	46		12	51.9	55.0	54		12	49.9	52.0	51	
14 16	42.6 41.3	44	-17.3	14	42.0	40.1	45	-16.1	14 16	49.2 48.9	52.0	50	-14.3	14 16	49.5	52.3	51	-14.1
18	42.8 41.2	44 45		16 18	41.1	39.2 38.8	47 47		18	48.8	51.1 51.8	49 50		18	50.8	53·7 52·5	53 <b>52</b>	
20	40.8 39.3	47		20	40.2	38.1	48		20	49.1	52.0	50		20	50.0	51.4	50	
22 24	39.4 38.9	48 48		22 24	39·4 39·7	37·7 37·9	49 49		22 24	49.5	51.9 52.2	50 51	1	22 24	51.6	53.0 54.0	53 54	
26	38.9 38.7	49		26	39.0	37.4	50		26	50.7	53.0	52		26	50.7	52.0	51	
28	38.3 37.9	50		28	38.8	37.3	50	76.0	28	50.0	_	51		28	51.0	51.9	51	١
30 32	39.3 38.8 39.9 39.6	48 47	-I7.I	30 32	38.3	37.1 36.0	51 52	-16.o	30 32	48.5 48.5	50.2 50.9	48 49	-14.0	30 32	49.7 48.9	51.2 52.1	50 50	-14.0
34 36	40.1 39.3	47 48		34	36.3	35.2	54		34	49.0	50.0	48		34	49.0	52.2	50	
36 38	40.0 39.1 39.6 38.8	48 48		36 38	37·9 37·2	37. I 36.9	51 52		36 38	50.2 51.1		50 51		36 38	49.0 50.0	51.9 53.2	50 52	
40	37.8 37.2	51		40	37.8	37.3	51		40	51.1	-	51		40	51.8	54.7	54	
42	37.6 37.0	51		43	37.8	37.2	51	-16.0	42	51.1	~	51		42	51.3	53.1	53	
44 46 48	37.8 36.7 37.1 35.7	51 53	-17.0	44 46	37·5 37·2	37.0 36.6	51 52	-10.0	44 46	52.0 51.0		53 51	-14.0	44 46	48.0 47.1	50.0	48 47	-14.0
48	37.8 36.8	51		48	35.8	34.8	54		48	50.5	50.8	50		48	47.2	50.0	47	
50 52	36.6 35.9 35.9 35.1	53 22 54		50 52	33·3 32·2	32.2 31.7	54 58 60		50 52	50.5	51.0 51.0	50 50		50 52	47.2 47.0	49.5 49.5	46 46	
54	31.5 30.3	23 01		54	33.9	32.5	58		54	51.2		51		54 56	47.2	50.0	47	
56 58	28.8 26.4 30.8 29.1	06		56 58	34.8 35.6	33.2	56 55		55.6 58	51.0 50.8	51.4	51		56 58	48.5	51.9	49	
00	31.0 29.7	23 02	-16.9	3 00	35.0	34·3 33·9	56	-15.8	5 00	50.0		51 51	-14.0	7 00	49.0 49.9	53.0 54.1	51 52	.14.0
02	34.0 32.8	22 57		02	34.6	33.7	56		02	50.0	51.2	50		02	47.1	54.I	50	
<b>0</b> 4 <b>0</b> 6	35.6 34.0 35.8 33.8	55 55		04 06	33.9	33.2 32.3	57 58		04 06	50.8		51 22 55		04 06	45.8 45.9	52.I 51.2	47 47	
08	37.5 35.0	53		08	33.3	32.7	58		08	56.3		23 01		08	46.8	53.0	49	
10	38.2 36.2 38.3 36.1	51 51		I0 I2	33.7	32.9	57		10	57.7	59-5	03		10	48.9	54.2	51	
12 14	38.2 36.2	51	-16.8	14	33.9	33.I 32.8	57 58	-15.8	12 14	56.0 55.0	-	23 00 22 59	-14.2	I2 I4	49.9	54.9 53.0	53 51	-14.
16	38.4 36.3	51		16	33.0	32.I	59		16	53.9	55.3	56		16	47.9	50.0	48	
18 20	38.1 36.2 38.1 36.2	51 51	}	18	33.6	32.2 33.0	58 57		18 20	50.6		52 50		18 20	47.8 48.5	50.3 50.0	48 48	
22	38.5 36.7	51		22	36.7		54		22	51.7	51.1 52.3	52		22	49.5	50.0	49	ŀ
24	39.0 37.2	50		24	37.8	35.2	52		24	54.5	55.0	57		24	50.6	51.9	51	
26 28	38.8 37.0 38.8 36.9	50 50		26 28	38.4 38.6	36.2 36.8	51 51		26 28	53.1	55·3 54.6	56 54	1	26 28	48.3 49.1	50.6 51.9	48 50	
30	39.2 37.3	50	-16.5	30	38.1	36.5	51	-15.7	30	52.0	54.5	54	-14.2	30	48.8	51.5	49	-14.
32 34	39.1 37.0 38.3 36.2	50 51		32 34	38.2	37.1 37.6	51 50		32	51.1		52	İ	32	49.9	52.5	51	
<b>3</b> 6	38.0 35.2	52		36	37.3	36.8	52		34	50.2		53 51		34 36 38	50.7	54.0 52.7	53 51	
38	37.3 34.7	53		38	36.8	36.o	53		38	49.0	51.0	40		38	51.6	53.5	53	
40 42	38.1 34.7 36.8 34.6	53 54		40 42	36.7 36.7		53 53		40 42	48.9		48		40 42	52.5 51.7	54.5 53.0	55 53	
44	37.4 35.5	53	-16.2	44	36.8	35.I	53		44	47.0	48.8	47 46	-14.3	44 46	51.2	52.0	52	-14.
46	36.8 35.1	53		46 48	36.6 36.0		53		46	49.5		50 56		46	51.0	53.I	53	
48 50	36.1 34.3 37.1 35.2	54		50	34.7		54 56		48 50	53·3 55·3		60		48 50	51.5 51.8	53.0 52.1	53 52	
52	37.8 36.4	51		52	34.0	33.1	57		52	55.0	57.0	59		52	50.0	50.3	49	
54 56 58	38.2 36.7 37.7 35.9	51 52		54 56	35.2 36.1	34·3 35.1	55 54		54 56	51.0 51.0		52 53		54 56 58	47.0 47.1	52.0 52.0	48 48	1
58	37.8 36.2	52		58		35.1	54		58		55.0	55		∥ 58	44.9	56.o	50	
														8 00	48.0	54.0	51	-14

Observer-R. R. T.

Correction to local mean time is — 2m 26s. 90° torsion = 14.'6. Torsion head at oh oom read 34° and at 9h 25m read 36°. Observers—R. R. T. and J. V., who alternated from 4h 12m to

#### MAGNETIC OBSERVATIONS

### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Mond	lay, February	22, 190	4	4 *1	M:	agnet s	scale inv	erted	Tueso	day, F	ebruar	y 23, 19	04			Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation		Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp C.	Chr'r time	Sca read	ings	East decli- nation	Temp C.
n m	d d	• ,	0	h m	d		· · ·	0	h m	d	d	. ,		h m	d		, ,	0
00	42.2 39.8	22 55	-16.8	10 00	50.0	45.2	22 46	-13.3	12 00	45.9	46.9	22 27	-19.4	14 00	42.1	43.4	22 21	-19.0
02 04	43.1 41.2	53 52		02 04	51.I 51.I	46.4 47.2	44	]	02 04	44.6 44.8	45.8 45.8	24 25		02 04	44.8 45.7	45.8 46.3	<b>25</b> 26	
26	46.0 43.3	50		06	52.3	47.9	42		06	43.9	44.0	23		06	46.7	47.3	28	
08	46.9 44.8	48	i	08	51.7	48.0	43	i	08	42.8	44.2	22		08	48.2 48.2	48.7 48.4	30	
IO I2	47.6 45.3 47.2 46.8	47 46		IO I2	51.8	48.2 47.5	42 44	,	10 12	44.8 44.5	45.8 45.8	25 25		10 12	48.5	48.9	30 30	
14	49.8 48.2	43	-15.5	14	49.0	46.8	46	-13.2	14	47.2	49.1	29	-20.0	14	48.0	48.4	30	-19.
16	50.1 48.9	42		16	47.3	45.8	48		16.3	47.6	49.9	30		16	47.2	48.2	30	-
18 20	49.3 48.1	43 48		18 20	47.1 46.2	45.6 45.1	48 50		18 20	48.5	50.I 50.I	31 32		18 20	46.9	48.1 48.6	29 29	
22	46.2 45.1	48		22	47.2	46.7	48	•	22	45.9	47.4	27		22	49.2	50.1	32	
24	45.9 45.3	48	İ	24	48.2	47.6	46		24.4 26	45.1	46.2	25		24 26	49.1	49.9	32 31	
26 28	46.0 45.1	48		26	49.2 49.8	47·3 47·9	46 45		28	49.2 49.1	50.2 50.8	32 32		28	48.7	49.7 49.1	31	
3C	46.3 45.0	53 48	-14.7	30	49.6	47.9		-13.2	30	43.8	45.2	24	-20.0	30	48.4	48.9	30	-19.
32	46.6 45.3	48		32	49.9	47.6	45	;	32	39.8		17 16		32	47.4	48.0	29	
34 36	47.3 46.2 48.2 47.1	47		34 36	49.5	47·5 47·4	45	í	34 36	38.8	39.9 41.4	18		34 36	47·4 48.1	47.9 48.6	29 30	
38	48.2 47.1 50.0 47.3	45 44		38	49.0	48.1	45 44		38	32.2	32.8	05		38	49.8	50.0	32	
40	49.6 47.5	44		40	50.2	48.1	44		40	35.8	37.8	12		40	50.2	50.8	33	
42	49.3 46.7	45	74.2	42	50.0	48.3 48.8	44	_ ra r	42 44	37.8 37.2	38.4 38.1	14	-19.8	42 44	49.8	50.0 50.1	32 32	-18.
44 46	49.1 46.8 48.3 45.8	45 46	-14.3	44 46	50.1	47.6	44 45	-13.1	44 46	39.7	40.2	17		46	49.1	49.5	31	
48	46.9 44.7	48		48	49.6	48.7	44		48	40.3	41.1	18		48	46.9	47.9	28	
50	47.3 45.6	47		50	49.9	48.6 48.0	44		50 52	41.2		2I 20		50 52	45.2	46.0 43.2	25 22	1
52 54	47.9 45.8 49.0 47.2	47 45		52 54	49.4	48.2	45 45		54	41.7	45.2	22		54	43.0	43.6	22	
56	50.8 48.2	42		56	49.5	47.7	45		56	42.8		24		56	44.0	44.9	24	
58	49.0 47.8	44		58	48.7	47.I	46		58 13 00	42.5 43.I	46.9 46.8	24 25	-19.7	58 15 00	45.9 45.8	46.8 46.8	27 27	-18
00	49.8 48.5 48.1 47.3	43 45	-14.0	11 00 02	48.9	47·5 47·9	46 45	-I3.I	02	42.4		23	29.7	02	45.7	46.8	26	10.
04	48.6 47.3	45		04	49.9	47.9	45		04	44.3	47.3	26		04	46.0	47.4	27	
<b>o</b> 5	48.9 48.0	44		06	50.2	47.7	45	}	<b>o</b> 6	44.6 45.1		26 28		06 08	46.8	47.9 48.7	29 30	1
08 10	48.8 46.1 47.6 46.2	46 47		08	49.8	47·3 47·2	46 45		10	43.7		25		10	49.2	50.I	32	
12	47.4 46.3	47		12	49.9	47.2	46		12	47.7	50.0	31		12	49.3	50.3	32	
14	47.6 47.0	46	-13.8	14	48.9	46.2	47	-13.0	14 16	46.8 45.4		30 27	-19.7	14	50.1	50.9 50.2	33	-18
16 18	48.8 47.3 46.8	45 47		16 18	51.2 51.2	48.3 49.0	44 43		18	45.4	49.3	29		18	49.2	50.1	32 32	
20	47.3 46.8 48.0 46.4	46		20	51.4	48.9	43		20	44.2	47.0	25		20	49.8	50.4	33	
22	47.6 45.8	47		22	51.7		43		22	43.5		24	-	22	49.2	50.0	32	
24 26	47.2 45.2	48		24 26	51.0 51.1	48.2 48.7	44		24 26	43.1	45.0 49.3	23 27	3	24 26	49.6 49.8	50.3 50.9	32	
20 28	46.3 43.6 49.9 47.3	50 44		28	50.7		44		28	44.1		25		28	49.4		33	
30	50.4 48.3	43	-13.5	30	52.3	47.5	44	-13.0	30	42.7		22	-19.6	30	48.3	49.7	31	- 1
32	46.1 44.4	50		32	51.9 51.6	47.2 46.5	44		32 34	37.2 33.1		08		32 34	45.8 44.3	47.0 45.4	27 ! 24	1
34	47.2 46.7 48.3 47.0	47 46		34 36	51.0		45 46		36	32.1		06		36	43.7		23	1
36 38	48.2 47.3	46		38	50.9	46.4	46	BE,	38	31.8	33.9	05		38	43.2	44.2	23	
40	49.7 47.4	44		40	51.2		45	1	40	29.1	31.7	02	1	40	41.5	42.9	20	1
42	48.6 47.2	45	72 5	42	51.6 51.8	47.8 48.1	44 44		42 44	29.8 28.1	32.2 30.2	03		42 44	41.2		19	1 ~
44 46	49.0 46.6	45 45	-13.5	44 46	52.2	48.0	44	-2.9	46	28.8	31.4	10	-5.5	46	39.9	40.9	17	
48	48.8 48.0	45		48	52.3	48.1	44	1	48	28.5	30.3	00		48	39.1	40.0	16	i
50	49.8 46.7	45		50	52.1	48.4	44	14	50	28.1 31.1		00		50	37.8	38.0	13	
52	49.0 45.4	47	1:	52 54	52.3	49.2 48.9	43	1	52 54	33.4		08	1	52 54	37·4 37·9	38.1 38.4	I3	
54	49.2 45.1 49.7 45.3	47		56	52.4	48.8	43		56	36.2	38.2	12	-	56 58	36.7	37.2	12	
56 58	50.I 44.9	46	-	58	53.8	48.4	42		58	38.3	40.7	16		58	37.8	38.8		
-				12 00	51.6	49.7	43	-12.5						16 00	40.2	40.9	18	-18

Correction to local mean time is — 2m 39.5s. 90° torsion = 14.'57. Torsion head read 36° and 14° at beginning and end respectively. Observer—H. H. N.

Correction to local mean time is — Im obs. 90° torsion = 16.'91. Torsion head read 30° and 40° at beginning and end respectively. Observer—R. R. T.

** Cui	nesday, Febru	ıary 24,	1904		Magnet s	scale inv	erted	wed	nesday, Fe	oruary 2	ı, 1904	,,	Ivia	gnet s	cale inv	rertea
hr'r ime	Scale readings Left Right	East decli- nation.	Гетр. С.	Chr'i time	Scale readings Left Right	East decli- nation	Гетр С.	Chr'r time	Scale readings	nation		Chr'r time	Sca read Left	ings	East decli- nation	Tem C.
m	d d	0 ,	0	h m	d d	0 ,	0	h m	d	i	0	h m	đ	d	0 /	0
00*	38.3 36.0	22 40	-22.0	2 00	30.8 30.0	22 50	-19.4	4 00 02	54.3 52 61.6 59			6 00	49.8 4 <b>5</b> .8	49.0	23 II 18	-17.
02 04	37.5 35.0 36.3 33.5	41 43		02 04	30.2 29.0	51 51		04	61.6 59 62.3 60		1	04	45.0	44.0 43.8	19	İ
06	34.3 31.2	47	,	06	30.0 29.4	51		06 08	60.3 58 60.5 58			o6 o8	48.5	46.6 52.0	14	-
08 10	28.0 26.0 38.5 35.8	56 40	1	08 10	30.6 30.3 32.0 31.5	50 48		10	60.4 58			10	54.5 53.0	51.3	05 07	į
12	27.0 24.8	57	0. 6	12	32.6 32.1	47		12 14	60.6 59 62.8 61			I2 I4	55.2 52.		02 07	_T7
14 16	30.0 28.0 31.0 28.3	52 51	-21.6	14 16	33.5 32.8 34.6 33.6	40	-19.1	16	65.6 63		1	16	48.6	48.0	13	-I7.
18	33.0 31.9	47		18	36.3 35.5	42		18 20	65.6 63	- 1		18	49.6	48.4	12	1
20 22	34.0 31.6 32.0 29.5	46 50		2 <b>0</b> 2 <b>2</b>	38.8 37.8 39.3 38.3	38 37		22	65.0 64	I 42	,	22	44.6	47·5 44·0	14 19	
24	31.6 29.3	50		24	38.1 37.3	39		24 26	64.5 63 65.0 63			24 26	43.3	42.0	22	
26 28	32.0 29.7 31.6 29.4	50		26 28	35.5 34.9	43 46		28	66.1 64			28	42.3 45.6	41.0 44.0	23 18	
30	32.8 30.8	48	-21.1	30	32.5 32.3	47	-18.9	30	68.8 67			30	46.3	45.7	17	-17.
32 34	33.4 32.0 29.5 28.3	47 53		32 34	32.0 31.3 31.2 30.8	48 49		32 34	68.2 67 67.2 66			32 34	47.0 46.5	45.6 44.4	16 18	
36	28.8 27.6	54		36	30.3 29.6	51		36 38	68.I 64	5 44		36 38	47.0	44.5	17	
38 40	30.8 30.0 32.5 31.3	50 48		38 40	31.0 30.6 31.6 30.9	50		30 40	67.2 65 66.9 64			30 40	49.2 50.0	47·3 48.3	13 12	1
42	32.3 31.0	48	-21.0	42	30.6 29.8	49 51		42	66.5 65	0 45		42	53.3	51.1	07	
44 46	31.8 30.6 32.8 32.0	49		44	30.1 29.1	52	-18.9	44 46	64.0 62	_		44 46	52.0 46.8	49.7	09 17	-I7.
48	32.8 32.0 32.6 31.3	47 48		46 48	31.7 30.7 32.6 31.5	49 48		48	66.5 65	0 45	;	48	51.9	49.8	09	
50	33.6 32.3	46		50	33.4 32.3	46		50 52	68.5 67	-		50 52	54.0	51.0 57.5	23 06 22 57	
52 54	33.8 32.4 33.5 32.7	46 46		52 54	34.0 33.3 33.6 32.8	45 46		54	70.4 69	4 39		54	48.8	45.3	23 15	
56	33.6 32.5	46		56	34.0 33.0	45		56 58	67.3 65	_		56 58.7	41.2 34.3	38.5 32.9	26 36	1
58 00	34·3 33·5 35·0 34·0	45 44	-20.5	58 3 00	32.6 31.8 33.0 32.3	47 46	-18.8	5 00	62.5 61	1	1	7 00	35.3	33.6	35	-17.
02.5	34.7 34.0	44		02	33.2 32.7	46	10.0	02	64.3 62	-		02	31.2	30.0	41	
<b>0</b> 4 <b>0</b> 6	34.7 33.8 34.3 33.7	44 45		04 06	33.3 33.0 34.2 33.3	46		04 06	61.3 60 60.0 59	- 1		<b>04</b> <b>0</b> 6	37.0 25.0	29.3 22.0	37 52	1
08	34.0 33.1	45		08	32.9 31.7	47		08	61.7 60	.6 5	3	08	29.5	27.0	45	
I0 I2	32.3 31.6 32.3 31.8	48 48		I0 I2	29.5 28.9 29.4 28.6	52 52		I0 I2	63.6 63 65.0 64	- 1		I0 I2	38.0	30.3 32.0	35 37	
14	33.2 32.8	46	-20.I	14	29.3 28.4	53	-18.6	14	65.3 64	5 42		14	31.3	29.3	41	-17.
16 18	33.3 32.3 32.8 32.0	46		16 18	30.3 29.9	51		16 18	65.1 64			16	32.0 34.6	29.6 33.2	40 36	
20	32.0 32.0 33.I 32.3	47 47		20	31.3 30.9 34.1 33.8	49 45		20	69.0 67	6 4		20	37.0	34.5	33	
22	33.5 32.7	46		22	37.7 37.2	39		22	69.0 67 67.3 66	9 4		22 24	30.2	26.0 29.2	45 41	
<b>2</b> 4 <b>2</b> 6	33.5 33.0 33.3 32.9	46 46		24 26	33.8 33.6 27.1b	45 55		24 26	66.9 65	3 4		26	29.0	26.5	45	
28	33.2 32.9	46		28	25.6 25.5	55 58	-0	28	66.5 65	-3 4.		28	24.0	23.5	52	
30 32	32.6 32.3 32.9 32.6	47 47	-20.0	30 32	26.6 26.1 28.0 27.0	57 55	-18.4	30	65.0 64			30 32		2I.5 24.3	54 49	-10.
34	33.0 32.4	47		34	29.7 28.3	52		34	66.5 66	.0 4	5	34	34.0	31.3	38	
36 38	32.6 32.2 32.8 32.2	47		36 38	26.7 25.7 35.0 33.5	57 44		36 38	67.3 66 64.5 64	.5 4		36 38	38.0 42.3	36.3 40.0	30 24	
40	33.0 32.2	47		40	35.1 33.6	44		40	64.6 63	.5 4	3	40	42.5	41.0	23	i
42 44	32.6 32.0 33.3 32.6	47 46	-19.7	42 44	33.5 31.7 34.3 31.6	47 22 46	-18.1	42 44	64.0 63 65.3 64			42 44	42.0 37.0	40.3 36.0	24	
46	33.3 32.3	46	-3.1	46	24.5 23.3	23 00	-3	46	64.2 62	.7 4	)	46	45.0	44.3	19	-16.
48 50	33.2 32.3 33.5 32.6	47 46		48	23.6 22.6 21.0 19.6	02 06		48 50	64.5 63 62.3 61			48 50	49.6	49.0 52.0	06	
52	33.3 32.5	46		50 52	21.0 20.0			52	62.0 60	-5 5		52	53.3	50.7	07	
54	32.6 32.3	47		54 56*	14.8 12.2	17 28		54 56	60.6 59 59.0 <b>57</b>			54 56	51.1	48.9	10	
56 58	32.0 31.3 31.3 30.6	48 49		56* 58	40.0 37.0 54.3 44.5	1	-18.0	58	56.0 54	.5   22 5; .0   23 0;		58	49.3	47.0 46.8	13	

hr'r me	Sca readi Left	ings	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation,	Гетр. С.	Chr'r time	Sca read: Left	ings	East decli- nation	Гет; С.
m	d	d	۰,	•	h m	d	d	0 ,	•	h m	d	d	0 ,	0	h m	d	ď	a ,	0
00 02	52.0 56.8	48.0 52.1	23 10	-15.8	IO 00 02	73.1 75.8	70.3 73.7	22 36 31	-13.9	12 00 02	45.7 47.8	44.0	22 28	-11.1	14 00 02	38.9 38.9	36.8 37.2	22 39 38	-9.0
04	53.0	49.4	08		04	68.2	66.1	43		02	44.4	45·3 42.0	25 30		02	39.0	37.6	38	
06	53.0	49.0	09		06	69.7	67.2	41	'	06	47.9	45.0	25		06	39.9	38.9	36	
08 10	53.5	52.0 49.6	<b>o</b> 6		08 10	74.8 74.1	71.0 70.1	34 35	1	08	46.4 46. <b>0</b>	43.7 43.2	27 28		08 10	40.8	39.9 40.0	35 35	
12	56.3	54.6	02		12	74.9	71.0	34		10 12	45.2	42.2	29		12	40.6	40.0	35	
14 16	56.0	55.0	23 02 22 60	-15.7	14 16.8	72.0	68.3		-13.3	14	45.6	42.3	-	-11.0	14	39.9	39.2	36	-8.
18	57.2	55.2 54.8	61		18*	77.7 48.3	36.2	32 32		18	48.0	43.8	26 27		16	40.I 40.9	38.3 39.8	37 35	
20	65.9	63.1	47		20	46.2	36.2	34	1	20	49.5	45.2	24		20	40.8	39.9	35	'
22	71.0 67.0	67.8 64.5	40 46		22	45.9 48.2	33.8 36.3	36 32	1	22	48.1	44.5	25		22	39.7	39.2	37	
24 26	63.1	61.1	51		26	46.0	32.0	37		24 26	47.8	45.0 41.5	25 31		24 26	39·3 40.1	38.2 39.0	37 36	I
28	70.7	67.6	40	1	28	45.2	32.3	37		28	49.4	47.1	22		28	40.6	39.1	36	
30	69.3	65.8 62.9	43 48	-15.2	30 32	44·9 39.0	32.3 36.6	37 39	-12.5	30	49.9	48.1	21	-10.8	30	40.7	39.0	36	-8.
32 34	65.2	62.8	48		34	41.6	37.1	37	,-12.3	32 34	50.0	48.5 49.2	2I 20		32 34	42.I 43.7	38.3 39.0	35	
36	64.0	61.5	50		36	39.1	36.7	39		<b>3</b> 6	48.5	47.9	22	1	36	44.I	39.9	32	
38	67.0 70.1	64.9 67.0	45	Of	38 40	38.7 39.2	35.0 36.8	40 38		38	48.9	48.2	22		38	44.6	40.I	32	
40 42	70.6	68.9	4I 39	4	42	36.2	33.2	44		40 42	46.5	45.6 45.0	26 27		40 0 42	46.0	38.0 37.8	32 33	
14	68.0	65.0	44	-15.0	44	35.3	32.9	44	-12.2	44	45.5	44.4	27	-10.3	44	44.I	37.9	, 34	-8.
46 48	68.9	65.9 68.6	43		46   <sub>1</sub> 48	38.2 38.0	35-3 36.0	40 40		46 48	45.0	42.0	30		46	43.8	38.0	34	
ю 50	70.1 68.3	67.3	40 42		50	37.9	36.4	40	1	50	43.2	39.9 41.8	33 30		48	43.3	37.9 38.0	34 34	
52	68.0	65.1	44		52	36.2	35.0	42	•	52	42.8	41.0	32		52	43.0	37.7	35	
54 56	67.1	66.6	44		54 56	37.6 37.0	36.7 35.3	40 41		54 56	43.0	41.5	32		54 56	42.6	37.6	35	
58	70.2	66.0	43	1	58	37.3	35.6	41	1	58	42.I 42.0	39·5 39·7	34 34		58	42.5	37.6 37.2	35 36	
00	68.2	65.6	44	-14.4	11 00	40.I	38.1	37	-12.0	13 00	42.5	39.3	34	-10.0	15 00	41.2	37.8	36	-8.
02	66.1 71.2	62.5 67.8	48		02 04	39.1 42.9	36.3 40.0	39		02	43.0	37·5 38.0	34		02	41.0	38.2 37.8	36	
<b>04</b> <b>0</b> б	71.2	68.2	39	,	06	43.2	41.2	32		04	41.9	37.0	35 37		04 06	39.0	37.0	37	1
80	70.0	68.0	40	1	08	43.7	42.0	31		08	40.0	36.2	38		08	40.2	38.3	37	1
IO 12	69.0 72.7	66.0	43 37		10 12	39.8 38.7	38.0 37.9	37 38		I0 I2	40.0	36.8 36.3	38		I0 I2	41.0	39.5	35	
14	74.1	72.4	34	-14.3	14	43.1	42.7	31	-11.9	14	39.0 39.1	<b>3</b> 6.1	39 39	-9.8	14	40.0	39.7 38.7	35 36	-8
16	68.9	68.0	41		16.3	42.7	40.5	33		16	37.5	35.1	41		16	39.9	37.0	37	
18 20	70.0	68.9	40 34		20	43.6 43.9	42.0 42.0	31		18 20	37.I 40.9	35·5 38·1	41 36		18	40.3	37.0	37 38	
22	73.3	73.I	34		22	47.3	45.3	25		22	42.I		34	1	22	40.0	37.1 37.5	37	İ
24	64.8	63.8	48		24	48.1	46.8	24 26		24	42.0	40.3	33		24	39.9	37.2	38	
26 28	68.7	68.5 70.6	38		26 28	47.1 44.3	45.2 41.9	30		26 28	41.8	39.8 39.8	34 34		26 28	39·7 39·5	37.2 36.8	38 38	
30	73.8	73.3	33	-14.3	30	45.3	42.7	29	-11.6	30	42.9	40.8	32	-9.3	30	39.0	36.8	39	
32	72.8	71.9	35		32	45.0	42.5	29 26		32	43.1		33		32	37.9	37.5	39	
34 36	70.9		37 38		34 36	47.5 47.2	45.0 45.8	25		34	42.5		33 32		34 36	38.2 38.7	38.2 38.7	38	
38	73.9		33		38	47.0	44.2	27		38.4	44.9	42.0	30		38	39.0	38.8	37	
40	73.3	71.2	35		40	44.8	42.2	30	1	40	43.8	41.1	32		40	38.4	38.o	38	
42	74.I 76.I		33	-I4. I	42 44	44.6 44.1	42.7 42.5	30	-11.2	42 44	42.I 42.2		34 34	-9.1	42	38.8 39.7		37 36	
44 46	72.2	68.8	38		46	43.8	41.9	31		46	40.I		34 37	9.1	44 46	40.9		35	
18	72.2	69.0	38		48	46.0	44.0	27		48	4I.I	37.9	36		48	41.3	40.3	34	
Ю	75.0		33		50 52	47.8 47.0	44.9 44.1	25 27		50	45.0		30		50	41.2			
52 :4	77·9 75·3	72.8	29 32		54 54	45.0	41.9	30		52 54	43.0		33 37		52 54	41.2		34	
56	71.9	69.8	37		56	46.1	43.7	28	1	56	41.7		35		<b>56</b>	41.0	40.7		
54 56 58	73.9	71.8	34		58	44.7	42.9	29		58		39.0			58	40.9			

Observer-J. V.

Observers—J. V. and R. R. T., who alternated from 15h 50m to 16h 00m.

### SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

### Tabulation of magnetic declinations observed at Teplits Bay-Continued

	Scale		East			Sca	ale.	East			Sc	ale	East			Sc	ale	East	
Chr'r time	reading	ß		Temp. C.	Chr'r time	read Left	ings	decli- nation	Temp. C.	Chr'r time	read	lings Right	decli- nation,	Temp. C.	Chr'r time	read		decli- nation	Temp C.
h m 6 00	d 41.6 30	d	۰ ,	•	h m 18 00	d 38.0	d	. ,	0	h m	d	d	0 ,	-6.1	h m	d 64.0	d 62.3	° ,	0
02 04 06 08	41.6 39 41.5 39 41.2 39 40.8 38	).2 ).2 ).1 ).7	22 35 35 35 36 36	-7.0	02 04 06 08 10	37.8 37.7 37.9 37.9 38.2	37.3 37.0 37.0 37.7 36.9	22 39 39 39 40 40 40	-5.4	20 00 02 04 06 08 10	38.4 37.9 37.9 38.3 38.5 38.6	37.6 37.7 37.7 38.0 38.1 38.2	22 39 39 39 39 39 39	-0.1	22 00 02 04 06 08 10	61.9 62.8 64.5 62.7 58.2	60.2 61.0 63.4 62.0 58.0	22 03 22 02 21 59 22 01 08	7.9
12 14 16 18	40.9 39 40.8 39 40.8 39 40.8 39	).I ).0 ).2 ).I	35 35 35 35 36	-6.8	12 14 16 18 20	38.2 38.2 38.1 38.0 38.0	37.0 37.2 37.3 37.2 37.2	40 40 40 40 40	-5.2	12 14 16 18 20	39.2 39.3 39.3 39.7 39.7	37.9 38.0 38.1 38.2 38.2	39 38 38 38 38 38	-6.1	12 14 16 18 20	56.8 56.9 56.8 55.0 53.0	56.8 56.1 56.1 54.2 52.4	10 10 10 13 16	-8.0
22 24 26 28 30	40.5 39 40.0 39 40.0 39 40.3 39	0.2 0.1 0.3 0.6 0.8	36 36 36 35	-6.2	22 24 26 28 30	38.0 38.2 38.7 38.8 38.8	37.5 37.8 38.0 38.1 38.1	40 39 39 38 38	-5.3	20 22 24 26 28 30	39.7 39.2 39.0 38.8 38.9	38.1 38.2 37.9 37.4	38 38 38 38 39 39	-6.4	22 24 26 28 30	49.9 49.4 49.1 50.0 49.9	49.3 48.3 48.1 49.4 49.6	21 22 23 21 21	-8.2
32 34 36 38 40	40.2 39 39.9 39 39.2 37 38.8 38	7.7 3.1 7.5	35 36 36 37 38 39		32 34 36 38 40	38.7 38.6 38.3 38.1 38.0	37.8 37.7 37.4 37.1	39 39 39 40 40	<b>J.J</b>	32 34 36 38	39.2 39.2 39.1 39.9 39.9	37.5 37.4 37.8 37.8 38.4 38.8	39 38 38 37 37	-0.4	32 34 36 38 40	50.7 51.2 54.7 56.8 50.3	49.6 49.2 52.8 51.1 44.2	20 20 15 14 24	
42 44 46 48 50	37.8 37 37.7 30 37.8 37 38.5 38	7.2 5.9 7.2 3.0	39 39 39 38 38	-6.0	42 44 46 48 50	38.0 37.9 37.8 38.1 38.1	37.2 37.1 37.2 37.8 37.9	40 40 40 39 39	-5.3	40 42 44 46 48 50	39.9 40.1 40.1 39.9 40.1 40.9	38.8 38.8 38.1 38.3	37 37 38 38 37 36	-6.7	42 44 46 48 50	47.9 42.8 42.0 31.5 29.1	39.9 35.3 35.7 28.8	30 38 38 22 52 23 01	-8.8
52 54 56 58 7 00 02 04 06	39.2 38 40.1 39 39.8 39 39.0 38 38.2 38 37.9 37 37.8 37	3.7 9.2 9.0 3.5 3.6 7.6	37 36 36 37 38 39	-5.8	52 54 56 58 19 00 02 04	38.1 38.4 38.2 38.2 38.2 38.2 38.2 38.5	37.9 38.1 37.8 37.8 37.8 37.7	39 39 39 39 39 39	-5-3	52 54 56 58 21 00 02 04 06	41.7 42.7 43.5 44.2 44.8 45.2 44.9 44.8	39.9 41.1 42.1 43.1 44.0 44.1 43.8	35 33 32 30 29 29 29	-6.9	52 54 56 58 23 00 02 04 06	29.9 36.2 51.1 54.0 60.2 54.9 49.9 52.1	19.7 27.4 12.2 16.7 24.8 24.3 16.8 22.2	23 00 22 49 49 44 32 37 47 41	-8.9
08 10 12 14 16 18	38.0 37 38.3 37 39.2 38 40.2 39 40.4 39 40.3 39	7.2 7.5 7.7 3.8 9.2 9.2 9.3	39 38 37 36 36 36 36	-5.6	08 10 12 14 16 18	39.3 39.8 39.2 39.1 38.8 38.9 39.2	37.9 38.9 39.2 38.9 38.3 38.2 38.8	39 37 37 38 38 38 38 38	-5.8	08 10 12 14 16 18 20	45.0 45.3 45.4 45.2 45.2 45.0 45.2	43.8 44.0 44.2 44.0 44.0	29 29 28 29 29	-7.0	08 10 12 14 16 18 20	57.9 48.9 40.9 42.3 46.7 49.3 50.3	20.2 6.0 20.2 18.1 25.1 29.1 28.9	38 56 51 52 43 37 37	-8.9
22 24 26 28 30 32 34	40.2 38 39.8 38 40.2 38 40.1 38 40.2 39 30.9 38	3.6 3.9 3.2 3.9 3.9	37 36 37 36 36 36 36	-5.5	22 24 26 28 30 32 34	40.0 39.2 38.7 37.9 37.8 38.2 38.3	37.7	37 38 38 40 40 39 39	-6.0	22 24 26 28 30 32 34	45.2 45.8 45.5 45.2 45.8 45.8 45.0 44.8	44.8 44.3 44.2 44.6 44.4	28 28 29 28 28 29	-7.3	22 24 26 28 30 32 34	40.3 49.8 49.2 47.9 54.6 58.0 51.0	26.7 26.1 36.1 40.3 39.3	53 37 39 41 28 22 28	8.8
34 36 38 40 42 44 46 48	39.6 38 39.7 38 39.2 38 38.9 38 38.3 37 38.3 37	3.8 3.9 3.6 3.0	37 36 37 38 39 39	-5.4	34 36 38 40 42 44 46 48	38.3 38.7 38.8 38.9 38.9 39.4 39.9 40.0	38.2 38.2 38.8 39.0 39.0	39 38 38 38 38 37 37		34 36 38 40 42 44 46 48 50 52 54 56 58	44.8	44.I 44.I	29 29	-7.6	36 38 40 42 44 46 48	46.6 48.8 44.7 50.7 52.9 50.8 47.9	33.2 30.2 36.7 39.8 38.3 36.1	38 35 40 30 26 29	-8.8
44 46 48 50 52 54 56 58	38.2 37 38.2 37 37.9 37	7.6 7.5 7.1 7.2	39 39 39 39 39		50 52 54 56 58	40.1 39.9 39.8 39.3 38.9	39.0 38.3 38.2	37 37 38 38 38		50 52 54 56 58	57.6 60.8 65.8 65.3 64.0	44.0 46.2 47.7 2.8a 56.2 60.2 64.7 65.1 62.8	10 22 04 21 57 57 59		50 52 54 56 58 24 00	46.0 45.0 44.3 43.6 42.3 41.8	33.8 33.3 33.2 33.2	30 38 38 39 40	

Observer-R. R. T.

Correction to local mean time is + 9.5s.
Torsion head read 31.5° at beginning and ending.
Observer—R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Inur	sday, Febr	u <b>ary</b> 25, 1	904			Magn	et scale	erect	Frida	ıy, Feb	гиагу	26, 1904			Ma	ignet s	cale inv	erted
Chr'r time	Scale readings	nation		Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation.	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Tem C.
h m		· ,		h m	d	d	0 /	•	h m	d	d	· ,	•	h m	d	d	0 /	0
00	52.4 53 51.7 53		-17.7	18 00	51.7 54.9	55.0 55.2	22 40 40	16.3	20 00 02	39.9 40.1	34·4 39·0	22 42 38	-6.7	22 00 02	41.2	39.8 39.1	22 36 37	-5.3
04 06	52.6 54 52.3 54	5 38		04 06	55.0	55.3	41		04	40.1	39.1	38 38		04 06	41.2	39.9	36	
<b>o</b> 8	52.I 54	2 37		08	54·4 54·2	54·9 54·9	40 40		<b>0</b> 6 <b>0</b> 8	40.1	39.2 39.8	38 37		08	41.2	40.3 41.1	36 34	
10 12	52.2 54 52.7 54			10 12	54.2 53.9	55.0 54.9	40	1	I0 I2	40.8	39.9 40.1	37 36		I0 I2	41.9	40.6	35	
14	52.9 54	9 39	-17.9	14	53.5	54.8	39 39	-16.1	14	41.0	40.1	36	-6.1	14	41.6	39.7 40.2	37 36	-5.
18 16	53.I 55 54.2 55			16 18	54.0 54.3	55.0	40 40	1	16	40.9	40.1 40.8	36 35		16 18	40.9	39.8 39.0	37 38	ì
20	53 I 54	8 39	1	20	54.7 54.8		41		20	41.8	41.3	35		20	39.8	38.4	39	i
22 24	53.0 54 53.2 55	8 39		22	54.8 55.2	55.8	4I 4I	ļ	22 24	42.8	42.0 42.2	33 33		22	38.6 38.5	37·7 37·7	40 40	
26	53-5 55	0 39		24 26	54.9	55.2	40		26	42.4	41.9	34		24 26	38.6	37.5	40	
28 30	52.8 54 52.3 54		-17.8	28 30	54.9 55.1	55.2 55.4	40 41	-16.o	28 30	42.4	41.8 42.0	34	-5.5	28 30	37·9 37·4	37.0 36.8	4I 42	-5.
32	52.9 55	.0   39	17.0	32	55.1	55.7	41	10.0	32	42.8	42.2	33	3.3	32	37.3	36.6	42	J.
34 36 38	53.0 55 53.1 55	I 39		34 36 38	55.0		4I 4I		34 36	42.6	42.0 42.2	34		34 36 38	37·2 37·7	36.5 37.0	42 41	
38	52.8 55	. <b>o</b>   39		38	55.4	55.9	41		38	43-5	43.0	32		38	38.0	37.4	41	
40 42	50.7 53 49.5 51	6 35		40 42	55·5 55·9	55·9 56·4	42 42		40 42	44.2	43.9 43.8	3I 3I		40 42	38.0	37.6 37.3	4I 4I	
44	48.0 49	.6 31	-17.3	44.3	55.8	56.7	42		44	44.2	43.9	31	-5.5	44	38.1	37.6	41	-5.
44 46 48	46.7 48	.2 28		46 48	55.6	56.4 56.3	42 42		44 46 48	44.7	44.I 44.2	31		44 46 48	38.2	37.6 37.8	40 40	1
50 52	47.2 48	I 29		50	55.7 55.8	56.5	42		50	44.8	44.2	30		50	38.1	37.9	40	
52 54	47.2 47 48.4 48	.9 28		52 54	56.0 56.2		43 43		<b>52</b> 54	45.4 45.7		29 29		52 54	37.6 37.0	37.0 36.8	4I 42	
54 56 58	49.8 50	.2 33		56	56.1	56.9	43		56	46.4	45.9	29 28		54 56	36.7	36.2	43	
50 7 00	50.9 51 51.2 51	.2 34 .8 35 .7 38	-17.0	58 19 00	55.I 55.0	57.0 56.9	42 42	-15.6	58 21 00	45.2	44.7 44.3	29 30	-5.7	58 23 00	36.4	36.1 37.0	43	-5.
02	52.9 53	7 38		02	54.7	56.4	41		02	44.9	44.5	30		02	37·4 37.8	37.5	41	
04 <b>0</b> 6	54.2 55 55.6 56			04 06	54.I 53.9	55.9	4I 40		04 06	43.7	43.1 43.0	32 32		04 06	37·5 36.4	37·5 36.1	41	
08	57.4 58	0 45	1	08	54.1	55.8	40		08	43.0	42.6	33		08	36.5 36.6	36.1	43	ļ.
10 12	57.9 58 57.2 57	.6 45 .9 44		10 12	54.2 54.3	56.0 55.9	4I 4I		I0 I2	41.5	41.1 39.8	35 38 38 38 38		I0 I2	36.5	36.0 36.2	43 43	
14	57.7 57	9 45	-17.0	14 16	54.1	55.8	40	-15.3	14 16	39.6	39.1	38	-5·7	14 16	36.2	36.0	43	
16 18	57.8 58 57.4 57	0 45 8 44		18	54.I 54.8	55.9 56.2	40 41		18	39.7 39.8	39.0 39.5	38		18	36.1 36.3	35.9 36.0	43 43	
20	57.8 58	0 45		20	55.1		42		20 22	42.0 42.6	41.6	34		20 22	36.9	36.3	43	
22 24	57.6 57. 57.3 58	0 44		22 24	55.I 55.3	57.0	42 42		24	44.2	42.0 44.0	34 31		24	36.9 36.8	36.5 36.4	42 43	
<b>2</b> 6	56.7 57	.6 44		26 28	55.1	56.8	42		26 28	47.3	44.0 46.4 47.3	26		26 28	36.0	35.2	44	
28 30	56.2 57 56.1 56	9 43	-16.8	30	55.2 54.2	55.8	42 41	-15.0	30	48.6	46.3	25 26	-5.7	30	35.2 36.1	35.7	45	
32	56.I 56	9 43		32	54.0 53.8	55.2	40		32	48.0	45.4	27		32	37.8	37.0	41	1
34 36	56.0 56 55.9 56			34 36 38	52.0	54.9 54.0	39 37		34 36	45.2 47.3	43·3 45·4	3I 27		34 36	37.9 37.2	37.I 36.5	4I 42	
36 <b>3</b> 8	55-3 57	0 42		38	52.2	54.3	38 38		38	46.7	44.4	29		38	36.5	35.9	43	ì
40 42	55.0 56. 55.2 56.	8 42 9 42		40 42	52.8 53.1		39		40 42	46.5 45.8	44.6 44.0	29 29		40 42	36.4	35·5 35·9	44	
44	55.3 57. 55.8 56.	0 42	-16.7	44 46	53.9	55.0	39	-15.0	44 46	46.0	44.0	29	-5.5	44	37.0	36.8	42	-5.
44 46 48	55.8 56. 55.1 56.	6 42 8 42		48	54·9 55·4	56.4	4I 42		48	41.8	41.9 <b>40.0</b>	33 36		44 46 48	37.8 37.5	37·3 37·1	4I 4I	
50	54.4 55.	9 41		50	55.4	56.4	42		50	42.5	40.9	34		50	37.3	37.0	42	:
52 54	54.2 55. 54.3 55.	4 40 8 40		52 54	55.2 55.2	56.2	41		52 54	41.4	40.1 40.3	35		52 54	37.0 37.4	36.8 37.1	42	
50 52 54 56 58	54.4 55.	4 40		54 56 58	55.7	56.8	42		54 56 58	41.3	40.0	36		56 58	38.9	37.4	40	
58	54.5 54.	9 40		20 00	55.0	56.7 56.6	42	-14.9	58	42.1	40.8	35		24 00	38.7 38.7	38.2 38.3	39	

Correction to local mean time is + 15s.

Torsion head read 30° at beginning and ending.

Observer—R. R. T.

Correction to local mean time is + 39s. Torsion head read 27° at beginning and ending. Observer—H. H. N.

				T	Ī		1			1		Ī	1	II	1		1 .	1
Chr'r time	Scale readings Left Right	East decli- nation.	Temp. C.	Chr'i time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	геас	ale lings Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Tem C.
ı m	d d	0 /	•	h m	d	d	0 ,	•	h m	d	d	· ,	0	h m	d	d	0 ,	0
00	54.0 56.1 54.0 55.8	22 45 45	-14.5	2 00	49.1 49.3	56.0 56.2	22 4I 4I	-11.9	4 00.4	53.8 53.1	51.0 52.0	22 45 45		6 00	52.9 53.9	52.5 53.5	22 44 43	-9.5
04	53.5 56.3	45	14.5	04	50.0	56.0	42		04	52.5	52.2	45		04	52.6	52.3	45 46	
06 08	53.I 57.0 52.2 57.0	45 44		06 08	50.0	56.3 56.8	42 43		06 08	53.0 52.0	52.8 51.8	44 45		06 08	51.5 51.2	51.2 51.0	47	
10 12	53.0 56.0	44		10	51.2	56.3	43		10 12	52.0	51.9	45		10 12	51.7 52.4	51.2 52.0	46 45	
14	56.2 58.2	45 48	-13.8	I2 I4	50.8	55.6 54.9	42 41	-11.4	14	52.0 52.8	51.9 52.5	45 44	-10.0	14	52.0	52.0	45	-9.3
16 18	50.2 58.2 50.5 58.0	43 43		16	51.6 52.0	53.2 53.8	4I 4I		16 18	53·5 53·2	53.I 53.0	43 44		16	53.0 53.3	52.3 53.3	44 43	
20	50.5 57.2	43		20	52.8	54.2	42	1	20	52.8	52.7	44		20	53.0	52.7	44	
22 24	50.8 57.0 51.2 56.7	43 43		22 24	52.9 52.9	54.9 54.8	43 43	;	22 24	52.8 53.1	52.7 52.9	44 44		22 24	52.3 52.3	52.3 52.0	45 45	
26 28	50.0 57.2	42	T.O. O.	26 28	53.0	54.9	43		26 28	53.4	53.1	43		26 28	52.3 52.0	52.2 52.0	45 45	
30	50.0 57.0	42 43	-13.3	28 30	53.2 53.4	55.2 55.1	43 43	-11.3	30	53·3 53.0	53·3 53·0	43 44	-10.0	30	52.6	52.5	45	ŀ
32	51.6 57.8 52.7 58.0	44 45		32	53·7 53·5	54.5 54.0	43		32 34	53.7 54.8	53·4 54.6	43 41		32	51.8 49.8	51.2 49.2	46 40	
34 36	52.7 58.5	46		34 36	53.9	54.2	43		36	54.1	54.0	42		34 36	50.7	50.3	49 48	
38 40	52.0 58.0 52.9 58.6	45 46	1	38 40	53.7 53.0	54.1 54.0	43 42		38 40	53.1 53.8	53.0 53.5	44 43		38 40	52.2 52.7	52.2 52.3	45 45	
42	53.0 58.6	46	T. C. C.	42	53.0	54.3	42		42	54.9	54.8	41	70.0	42	53.0	52.9	44 44	-9.3
44 46	52.6 58.0 50.8 58.2	45 44	-13.0	44 46	53.0 52.0	54.5 55.0	43 <b>42</b>	-11.1	44 46	54.0 53.0	54.0 52.8	42 44	-10.0	44 46 48	53.0 <b>52.</b> 9	52.7 52.3	44	-y.,
48 50	50.9 57.7 51.2 57.1	44 43		48 50	52.0 52.0	55.0 55.0	42 42		48 50	53.0 53.8	52.8 53.6	44 43		48 50	52.2 52.6	52.2 52.2	45 4 <b>5</b>	
52	51.8 57.4	44		52	52.5	55-5	43		52.3	52.8	52.3	45		52	52.2	51.8	45	İ
54 56	51.9 57.0 51.1 56.7	44 43		54 56	53.1 52.8	55·7 54·9	44 43		54 56	52.2 53.0	52.0 52.8	45 44		54 56	52.2 52.1	52.0 51.9	45 45	
58	50.8 56.0	42	70.0	58	53.1	54.9	43		58	53.I	53.0	44	-0.0	58 7 00	52.2 52.5	52.0 52.1	45	-9.2
00 02	50.8 56.0 52.3 56.1	42 43	-12.9	3 00 02	54.0 53.2	55.5 56.0	44 44	-11.0	5 00 02	52.I 52.0	52.0 51.5	45 46	-9.9	02	52.5	52.0	45 45	9.2
04 06	54.0 57.8 54.1 57.8	46 46		04 06	52.0 51.3	55.2 55.0	42 42		04 06	52.9 53.8	52.8 53.5	44 43		04 06	52.5 53.0	52.0 52.7	45 44	
08	53.7 57.0	45		о8	52.0	55.0	42		о8	52.9	52.2	45		o8	52.0	51.9	45	
I0 I2	53.3 56.0 53.9 55.7	44   44		10 12.4	52.0 52.1	55.2 55.7	42 43		10 12	52.1 52.8	52.I 52.5	45 44		10 12	52.0 52.2	52.0 52.2	45 45	
14 16	54.1 55.2	44	-12.6	14 16	51.8	55.2 56.0	42	-10.9	14 16	53.1	53.0 54.2	44 41	-9.8	14 16	53.0 53.0	52.0 52.7	45 44	-9.1
18	53.0 55.7 52.0 55.0	44 42	ŀ	18	51.5 51.9	55.5	43 43		18	55.0 5 <b>7.</b> 0	56.0	38		18	53.2	53.0	44	
20 22	51.8 53.7 51.5 52.8	4I 40	1	20 22	52.5 52.7	56.0 55.9	43 44		20 22.3	55.0 54.9	54.9 54.8	41 41		20 22	52.2 52.1	52.I 52.0	45 45	
24	52.3 51.1	40		24	52.6	56.0	44		24	52.5	52.0	45		24 26	54.0	53.8	42 42	
26 28	50.4 51.9 50.2 52.1	39 39		26 28	51.8 52.1	54.8 54.8	42 42		26 28	53.5	51.0 53.1	47 43		28	54.0 53.7	53.0	43	
30 32	50.3 53.0	39	-12.2	30 32	52.9 53.0	54.9 55.2	43	-10.7	30 32	54.5	54·3 52·3	42 44	<b>-9.8</b>	30 32	53.I	53.1 53.5	44 43	
34	50.0 53.2 49.1 53.0	39 38		34	53.4	55.7	43 44		34	53.2	52.2	44		34 36	53.0	52.9	44	
34 36 38	48.8 52.3 48.8 52.3	38 38		36 38	52.2 51.0	54.8 53.8	42 41		34 36 38	53.0 52.2	52.7 52.2	44 45		36 38		52.9 52.9	44	
40	49.7 53.0	39		40	52.0	54.0	42		40	53.6	53.0	43		40	52.3	52.3	45	
42 44	50-2 53.4 50.1 53.1	40 39	-I2.0	42 44	52.5 53.1	54.7 55.1	42 43	-10.5	<b>4</b> 2 44	54.2 52.8	54.0 52.1	42 45	-9.7	42 44	54.2 54.1	54.0 53.9	42 42	-9.0
44 46	50.4 53.9	40		46 48	52.7	54.8	43		46 48	51.8	51.6	46		44 46 48	53.7	53.2	43	
48 50	51.8 54.2 52.8 54.9	42 43	Š	50	53.0 53.2	55.0 55.0	43 43		50		52.0	44 45		50	53.0 53.3	53.0 53.2	44 43	
52 54	52.5 54.2 50.0 56.7	42 42		52	53.0 50.0	54.4 57.0	43 42		52		51.0 51.9	47 45		52 54		52.I 53.0	44 43	
52 54 56 58	49.4 56.2	41	1	54 56	50.0	56.9	42		54 56	52.2	52.0	45 46		50 52 54 56 58	54.0	54.0	42	
58	49.1 56. <b>0</b>	41		58	49.8	52.0	38		58	51.7	51.2	40		8 oo	54-3 54.0	53.9	42. 42	-9.0

Observer-J. V.

Correction to local mean time is + 17.5s.

Torsion head at 23h 30m read 22° and at 9h 31m read the same.

Observer—J. V.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

wond	lay, Februar	<b>29,</b> 190	4			Magn	et scale	erect	Tuese	iay, M	arch I	, 1904			Ma	gnet s	cale inv	erted
hr'r ime	Scale readings Left Right	East decli- nation,	Temp. C.	Chr'r time	Scaread	ings	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation,	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Tem, C.
m	d d	0 ,	0	h m	d	d	0 /	•	h m	d		0 ,	•	h m	d		. ,	0
00 02	53.5 55.6 51.6 53.9	22 47	-13.0	I0 00 02	54·4 54·5	54·7 54·7	22 47	-10.2	12 00	52.9	51.3	22 45	-I.2	14 00	54.9	50.3	22 44	-2.7
04	52.2 53.9	45 45 48	ļ	04	55.I	55.3	47 48		02 04	53.2 56.1	51.5 49.5	44 44		02 04	55.0 56.5	49.1	45 44	
o6 o8	54.0 55.6 55.3 56.8	48 50		06 08	54.3	54.6 54.0	47 46		<b>o</b> 6	55.8	50.2	43		06 08	55.8	50.0	44	
10	54.6 56.4	49		10	53.6 53.1	53.4	45		10	56.0	50.2 50.7	43 42		10	55.2 55.3	50.0 49.4	44	
12	57.3 58.2	52	10.4	12	53.7	54.0	46	-10.0	12	57.3	51.8	41	T 49	12	56.0	49.1	44	
14 16	55.7 57.1 56.0 57.3	50 50	-I2.4	14 16	54.I 52.6	54.7 53.0	47 45	_10.0	14 16	57.0	52.3 $52.7$	4I 40	-1.7	14 16.2	56.0 56.0	49.2 48.9	44 44	-2.
18	55.8 57.2	50		18	52.5	52.9	44		18	57.4	52.2	40		18	55-4	48.3	45	
20 22	56.1 57.3 55.9 57.1	51 50		20 22	54.1	54·3 54·4	47 47		20 22	57.0	51.8 51.1	41 43		20 22	55.7 56.0	48.4 48.5	45 45	
24	56.2 57.3	51		24	53.6	54.0	46		24 26	55.0	51.7	43		24 26	55.5	47.7	46	
26 28	56.3 57.6 57.1 57.9	51 52		26 28	53.7 52.6	53.9 52.9	46 44		26 28	55.2	51.6 50.7	43 44		20 28	54·4 54·2	47·4 48.2	47 46	
30	56.8 57.5	51	-11.8	30	51.8	52.1	43	-10.0	30	55.0	50.4	44	-2.0	30	53.9	49.0	46	-3.
32	56.4 57.3 56.9 57.6	51 51		32	53.5 53.6	54. I 54. 3	46 46	ľ	32	55.0 54.3	50.3 50.3	44 44		32	52.2 51.1	48.5 48.8	47 48	i
34 36	55.7 56.2	49		34 36	53.1	53.4	45		34 36 38	54.2	49.8	45		34 36 38	50.7	46.8	50	1
38	55.0 55.8			38 40	53.1 53.6	53·7 53·9	45 46			54.8		44		38	51.8 57.8	47.0 48.0	49	
40 42	55.1 56.0 57.1 57.7	52		42	53-3	53.8	46		40 42	55·3 56.0	52.0 52.1	42 42		40 42	51.7	46.I	44 50	
44	56.4 57.0	51	-11.7	44	52.8	53.1	45 46	-9.8	44	55.9	52.1	42	-2.I	44	51.9	47.3	49 48	-3
46 48	55.2 55.9 54.6 55.1	49 48		44 46 48	53.7 53.1	53.9 53.6	45		44 46 48	56.2	52.0 52.8	42 41		44 46 48	52.0 52.3	48.7 49.2	40	
50	55.4 55.8	49		50	55.2	55.8	49 48		50	56.0	51.8	42		50	53.0	49.7	46	
52 54	55.7 56.2 55.1 55.7	49 49		52 54	54.7 52.6	55.0 52.9	40		52 54	56.1	51.6 51.9	42 41		52 54	53.4	48.7 49.0	47 47	
54 56	55.5 56.0	49	1	54 56	51.0	51.2	42		54 56	55-7	51.8	42		54 56	52.3	49.4	47	
58 00	55.I 55.6 54.9 55.I	49 48	-11.3	58 11 00	51.9 52.8	52.2 53.0	43 45	-9.3	58 13 00	55.7 55.9	51.8	42 42	-2.I	58 15 00	53.5 53.0	50.6 50.2	45 46	-3
02	54.3 54.8	47		02	52.6	52.9	44		02	54.6	52.2	43		02	51.8	50.9	46	
04 06	53.2 53.8	46		04	51.9 51.5	52.2 51.8	43 43		04 06	54.2 54.0	52.3 53.0	43 43		04 06	52.2	51.3 51.9	45	
8	53.I 53.7			08	51.1	51.5	42		80	53.8	53.0	43		08	52.0	51.5	44 45	1
10	53.6 53.9	46		I0 I2	51.6	51.9 52.4	43 44		I0 I2	54.0 53.2	52.4	43		10 12	51.7	50.6	46	
12 14	53.8 54.0 54.1 54.2	46 47	-11.0	14	52.0	52.8	44	-9.3	14	52.7	52.4 52.0	44	-2.2	14	51.4	50.9 50.8	46 47	-3
16	53.9 53.9	46		16	51.9	52.5	44		16	52.9		45		16 18	52.7	50.9	45	
18 20	53.6 53.9 54.0 54.2	46 47		18	51.3	51.9 51.4	43 42		18	53.0 53.1	50.8 50.2	45 46		20	53.9	51.8 52.0	44	
22	53.8 54.0	46	1	22	49.5	50.9	40		22	53.9	50.5	45		22	54.0	52.0	43	1
24 26	53.9 54.2 53.7 54.0	46 46		24 26	49.1 49.5	49·5 49·7	39 39		24 26	55.9 54.6	51.3 51.2	42 44		24 26	53·3 52.9	51.7 51.2	44	
26 28	53.9 54.1	40		28	51.4	51.7	42		28	55.0	51.2	43		28	52.3	<b>50.</b> 9	45 46	1
30	54.1 54.2	47	-10.8	30 32	53.0	53·7 51.2	45 42	-9.0	30 32	54·5 54·9	52.2 52.1	43 43	-2.5	30 32	53.0 52.6	51.9 52.0	44	-3
32 34	54.I 54.I 53.8 53.9	47 46			50.7 49.8	50.3	40		34	53.9	52.5	43		34	52.7		45	1
34 36_ 38	53.7 53.9	46		34 36	52.2	52.7	44		36	53.0	51.8	44		34 36 38	51.0		45 48	
38 40	53.7 53.9 Overl'k'd	46		38 40	52.4 52.1	52.9 52.7	44		38 40	51.9 51.8	50.8 50.7	46 46		40	51.0 49.7		49 51	'
42	53.1 53.4	45		42	50.9	51.2	42		42	51.2	50.0	47		42	49.7	47.0	51	1
44 46 48	53.I 53.3 52.9 53.0	45 45	-10.4	44 46	50.2	50.8 50.7	4I 4I	-9.0	44 46	53.2 54.2	51.4 50.2	44 45	-2.8	44 46 48	47.4 45.6	44,7 42.9	54 57	;   -3
48	53.8 54.0	46	1	48	50.7	51.2	42		48	55.0	50.9	44		48	44.9	43.0	58	3
50	53.I 53.5	45		50	51.8	52.0 51.9	43		50 52	54.2	50.8 48.1	44		50	43.2 48.3	42.0 45.6	60	)
52 54	52.6 52.9 53.1 53.4	44 45		52 54		52.0	43 43		54	53.9 53.8	47.9	47		54	50.2	44.1	53	3
50 52 54 56 58	54.1 54.2	47		56	51.4	52.0	43		56	54.1	49.6	45		50 52 54 56 58	48.6	43.3	55	1
58	54.2 54.4	47		58 12 00		52.3 51.9	44 42	-8.5	58	55.0	50.6	44		16 00	52.0			-3

Correction to local mean time is — 28.5s.

Torsion head at 7h 40m read 22° and at 12h 30m read 22°.

Observer—H. H. N.

Correction to local mean time is — 39s. 90° torsion = 10.'63. Torsion head at 11h 25m read 25° and at 16h 25m read 33°. Observer—J. V.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation.	Temp. C.	Chr'r time	Sc. read Left	-	East decli- nation	Tem <sub>1</sub> C.
h m	d d	° ,	0	h m	d	, d_	0 ,	•	h m	d	d	0 ,	0	h m	d	d	. ,	
00* 02 04 06 08	60.3 65.0 63.4 70.1 60.9 70.8 64.0 68.8 70.6 72.3	22 48 55 58 22 54 23 02	-10.4	2 00 02 04 06 08	60.2 60.2 60.3 59.7 59.2	60.7 60.9 60.9 59.9 59.4	22 45 45 45 44 43	-6.8	4 00 02 04 06 08	58.1 58.3 58.3 58.2 58.7	60.2 60.8 60.5 60.4	22 43 43 43 43 43	-5.6	6 00 02 04 06 08	58.8 59.1 60.2 63.8 64.2	59.3 60.0 62.6 65.8 66.2	22 43 43 46 52 52	-4.9
I0 I2	72.3 76.8	07 23 07	- 0	I0 I2	59.2 59.9	60.2 60.8	44 45	<i>(</i> -	I0 I2	58.6 59.9	60.3	43 45		I0 I2	62.7	64.0 62.1	49 47	
14 16 18 20	66.9 69.5 70.9 73.1 67.1 70.7 69.1 70.1	22 57 23 03 22 58 59	-9.8	14 16 18 20	59.9 59.2 59.0	60.9 60.7 60.2 59.7	45 45 44 43	-6.7	14 16 18 20	60.9 60.9 60.3	62.3 61.9 62.0 61.7	47 46 46 46	-5.3	14 16 18 20	58.9 59.4 59.2 60.3	60.2 60.9 60.9	43 44 44 46	-4.8
22 24	63.1 64.8 58.2 59.8	50 43		22 24	59.3 59.9	60.3 61.0	44 45		22 24 26	60.1	62.7 62.0	46 46		22 24	61.1 61.6 60.8	62.3 62.8 62.0	47 48	le le
26 28 30 32	64.0 <i>a</i> 67.8 69.8 73.9 76.9 67.8 69.2	50 22 58 23 08 22 58	-9.0	26 28 30 32	58.9 57.6 57.8 58.2	59.8 58.8 58.4 58.9	43 41 41 42	-6.3	28 30 32	59.7 59.5 60.2 60.3	61.0 60.9 61.8 62.0	45 44 46 46	-5.2	26 28 30 32	60.1 61.9 63.2	61.6 62.8 63.9	46 45 48 50	-4.7
34 36 38	68.3 70.9 65.4 66.7 65.2 66.2	59 54 53		34 36 38	59.1 60.3 61.2	59.9 60.8 61.4	43 45 46		34 36 38	60.3 59.0 57.3	62.2 60.8 58.8	46 44 41		34 36 38	60.1 57.2 59.2	60.8 57.9 59.4	45 40	
40 42 44	60.9 62.1 60.9 62.7 62.2 64.1	47 47 49	-6.8	40 42 44	61.5 61.1 60.0	61.8 61.7 60.4	47 46 44	-6.2	40 42 44	59. I 62. 9 65. 2	60.0 63.8 66.7	43 49 53	-5.1	40 42 44	61.8 63.0 60.1	62.7 63.9 60.9	43 48 49 45	-4.6
46 48 50	68.0 70.7 70.8 72.7 70.8 72.1	22 59 23 03 23 02	0.0	46 48 50	59.0 60.1 62.0	60.0 60.9 62.8	43 45 48	0.2	46 48 50	65.I 62.8 60.2	66.1 63.4 61.0	53 49 45	3.1	46 48 50	59.1 59.0 59.1	60.1 60.1 62.8	43 43 46	4.0
52 54 56	67.8 69.8 66.1 67.7 65.3 66.8	22 58 55 54		52 54 56	63.0 64.2 63.9	63.8 64.9 64.2	49 51 50		52 54 56	61.9 64.2 65.7	63.0 65.6 66.5	48 52 54		52 54 56	60.8 57.7 56.9	64.0 61.0 59.8	48 43 41	,
58 00 02	64.0 65.2 63.1 63.9 62.8 63.4	51 50 49	-8.0	58 3 00 02	62.9 62.7 62.0	63.3 63.3	49 49 48	-6.1	58 5 00 02	62.0 59.2 60.0	62.8 60.4 61.0	48 44 45	-5.0	58 7 00 02	60.1 60.0 58.3	62.8 63.2 61.7	46 47 44	-4.3
04 06 08	61.9 62.3 60.6 61.2 60.9 61.8	47 46 46		04 06 08	61.1 61.1 60.7	62.2 62.1 61.2	47 47 46		04 06 08	59.9 61.2 62.9	60.7 61.7 63.4	45 46 49		04 06 08	59.0 59.9 59.3	61.8 61.1 61.3	45 · 45 · 45 ·	
10 12 14	61.6 62.7 63.3 64.3 64.0 65.0	47 50 51	-7.7	10 12 14	59.8 59.9 59.6	60.3 60.4 60.3	44 44 44	-5.9	10 12 14	61.7 61.3 60.2	62.0 62.0 60.9	47 47 45	-5.0	10 12 14	58.8 58.9 57.8	61.8 61.1 59.8	45 44 42	-4.3
16 18 20	63.5 64.1 63.1 63.9 62.8 63.3	50 50 49		16 18 20	59.9 59.9	60.9 60.9 61.0	45 45 45		16 18 20	60.8 63.7 61.4	62.1 64.8 62.8	46 51 47		16 18 20	58.8 56.6 59.6	60.0 57.8 60.0	43 40 44	
22 24 26	61.7 62.2 60.2 61.2 59.4 60.2	47 45 44		22 24 26	59.9 58.8 58.5	59.9 59.4	45 43 42		22 24 26	59.8 58.8 62.8	60.4 59.2 63.1	44 43 49		22 24 26	62.8 63. 56.3	62.8 ob 56.8	49 49 39	
28 30 32	59.4 60.2 58.7 59.1 59.1 59.2 59.2 59.8	42 43 43	-7.2	28 30 32	60.3 62.7 63.1	61.1 63.4 63.4	45 49 49	-5.8	28 30 32	64.3 65.0 64.1	65.1 65.8 64.8	52 53 51	-5.0	28 30 32	58.7 62.5 60.8	60.1 63.9 61.0	43 49 46	-4.3
34 36 38	60.5 60.8 61.0 61.1 61.3 61.8	45 46 47		34 36 38	62.8 62.0 61.4	63.1 62.1 61.8	49 47 47		34 36 38	62.9	63.8 62.8 63.7 64.0	50 48 49		34 36 38	58.4 59.0 57.8	59.1 59.7 57.9	42 43 41	
40 42	61.5 61.9 61.1 61.8 60.2 61.1	47 46 45	-7.0	40 42 44	60.9 61.3 62.2	62.0 62.8	46 47 48	-5.8	40 42 44 46	63.7 62.8 63.2	63.2 64.0	50 49 50	-5.0	40 42	57.4 57.0 57.8	58.9 57.2 59.1	41 40 42 48	-4.5
44 46 48 50	60.1 60.9 60.3 61.1 61.0 61.9	45 45 46		46 48 50	63.8 62.7 62.2	64.0 6 <b>5.8</b> 64.9	50 51 50 48		48 50	61.7 60.3 64.7	62.4 61.3 65.2	47 45 52		44 46 48 50	62.1 61.0 57.7	63.1 61.9 58.9	46 41	
52 54 56 58	62.0 62.6 62.7 62.9 62.1 62.2 61.1 61.2	48 49 47 46		52 54 56 58	58.7 57.9 58.1	63.4 61.0 60.1	48 44 43		52 54 56 58	62.3	67.4 63.2 62.3 60.8	55 48 47	.3	50 52 54 56 58	61.1 61.8 60.0 57.9	62.2 62.7 60.8	47 48 45	

### MAGNETIC OBSERVATIONS

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

hr'r ime	Scale readings Left Right	East decli- nation	Temp C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation.	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Tem C.
m	d d	0 /	•	h m	d	d	0 ,	0	h m	đ đ	٠,	•	h m	đ đ	0 /	0
00 02	61.4 61.7 61.0 61.9	22 47 46	-4.3	10 00 02	63.2	64.0 62.8	22 50 48	-4.0	12 00 02	38.3 39.9 41.5 44.0	22 11	-5.1	14 00	43.7 44.5 50.1 50.6	29	7.0
04 06	59.6 61.3 63.2 65.1	45 51		04 06	60.9	61.5 62.6	46		04 <b>o</b> 6	41.0 44.4 42.3 43.8	17		04 05	51.2 51.6 51.8 52.5		
<b>o</b> 8	59.3 59.9	43		80	62.6	62.9	48 48		о8	41.8 42.9	16		08	53.6 54.0 54.6 54.8	34	
10 12	60.6 61.0	45 48 48		I0 I2	62.7		49 48		IO I2	41.2 42.7 41.7 43.4	16 17		12	55.9 56.2	38	_
14 16	61.7 62.8 59.2 59.6	48 43	-4.3	14 16	64.5	64.8 63.0	51 48	-4.0	14 16	43.2 45.1 42.8 43.9	18	-5.2	14 16	56.0 56.8 56.7 57.2	39	-7.
18	57.6 58.9	41		18 20	63.3	63.3 61.6	49 46		18	47.5 48.6	25		18 20	55.0 56.1 55.4 56.3		
20 22	61.0 62.4	46	-	22	61.3	62.2	47 48		20 22	42.4 44.9 44.9 46.1	21		32	56.8 58.2	40	
24 26	57.3 58.9 61.6 63.1	48		24 26	62.0 65.1	62.5 65.3	52		24 26	43.8 45.6			24 26	58.1 59.5 57.6 58.7	41	1
28 30	59.8 61.3 59.0 59.6	45 43	-4.1	28 30	59.2		44 46	-4.0	28 30	40.5 42.2 41.1 42.6	15	-5.5	28 30	55.8 57.0 55.3 56.1		-7.
32	59.7 60.2	44	4'``	32	57.8 57.6	58.3	41 42		32	43.7 45.3	20	3.5	32	53.1 53.5 50.5 51.2	34	1
34 36 38	58.6 59.0 61.6 62.7	42 47		34 36	60.6	61.I	45		34 36	46.0 48.7	32		34 36 38	40.0 50.3	29	
38 40	58.9 59.4 61.3 62.2	43 47		38 40	59.1 59.6		43 44		38 40	54.9 57.6 55.1 56.3	37		40	48.8 49.6	26	
42	59.9 60.5	44		42	56.9 57.4	57.3	40 41	-4.0	42 44	56.8 57.6 50.0 60.1	40	-5.6	42	48.9 49.5		
44 46 48	59.8 60.4	45 44		44 46	58.1	59.8	42	4.5	46	58.7 59.9	43		44 46 48	52.7 53.4 53.8 54.4	33	1
48 50	61.8 63.6	45 48	-4.I	48 50	59.2 56.3	56.8	43 39		48 50	60.3 61.4 59.3 60.3	44		50	54.0 54.	7 35	
52	61.3 62.7 62.2 63.9	47 49	1	52 <b>54</b>	53.6 <b>55.3</b>	56.4	34 38		52 54	57.2 58.8 56.4 57.9			52 54 56	54.6 55. 55.3 55.	7 37	'
54 56	62.5 63.4	49		54 56 58	<b>56.6</b> 59.3	57.8			54 56 58	57.1 58.2 56.5 57.8	? 40		56 58	55.0 55 55.8 56.		
58 00	60.2 62.3	49 46 48 48	-4.0	11 00	58.1	58.5	41	-4.I	13 00	56.4 57.9	40	-6.0	15 00	55.5 55. 55.2 55.	3   37	'   -7
02 04	61.9 62.7	46		02 04	58.9	57.3	39		02	55.6 57.4 53.3 55.1	35		02	54.0 54.	3 35	;
06 08	61.1 62.0 62.0 62.9	47 48 48		06	55·7 54·7				05 08	51.2 52.8 51.6 53.0			об 08	53.9 54. 53.8 54.	3 35	;
10	62.2 62.8	48		I0 I2	53·7 57·9	54.1	35		IO I2	52.5 53.8	33		10 12	51.2 51. 51.1 51.		
I2 I4	59.2 61.9 62.0 64.1	45 49	-4.0	. 14	58.0	58.4	41	-4.3	IA	53.0 54.3 53.1 54.4	1 34	-6.3	14	50.4 51. 49.2 49.	2 30	7 -7
18 18	61.0 64.8 61.7 63.2	49 48		16	51.7				18	53.4 54.7	7   36		18	46.8 47.	3 24	ţ
20	59.1 63.5	46 45		20	51.4 52.3	-			20 22	55.4 56.0 55.2 56.4			20 22	46.2 46. 46.6 47.	, ,	
22 24	60.7 62.9	47		24	54.1	54.9	36		24	54.8 56.0	37		24 26	46.7 47. 45.3 46.		
26 28	60.3 62.8 58.2 60.7 57.5 60.7	47	1	26 28	55.5	55.9	37		26 28	56.3 57.	5 39		28	45.3 46. 45.7 46. 46.8 47.	2 22	2
30 32	57.5 60.7 64.5 66.0	43 52	-4.0	30 32	55·4 57·4	. 58.5	38 41	-4.7	30	54.I 55.: 40.4 50.:		-6.5	30	47.6 48.	2 2	5
34	63.5 66.7		l l	34 36	58.1 58.6	59.1	42		34 36 38	46.I 47.6 43.6 44.			34	49.9 51. 52.0 52.		
34 36 38	60.1 63.3	47	'	38	59.1	60.2	43		38	43.0 43.	31 0	3	38 40	51.8 52. 52.1 52.	3 3	2
40 42	62.8 65.9 58.4 61.2	51 44		40	58.5	56.4	36		40 42	43.8 44. 46.2 46.	8 23	1	42	51.3 51.	7 3	1
44	59.7 62.1	44 46	-4.0	44 46	50.6 50.7	52.2	31	-4.9	44 46 48	46.3 47. 45.8 46.			44 46	52.0 52 52.1 52	7 3	2
44 46 48	64.2 66.8 60.2 62.7	53 46		48	55.6	57.8	39		48	48.7 49.	8 27	7	48 50	51.7 52	5 3	2
50 52	61.0 63.3 62.7 65.1	50	1	50 52	56.0	56.9	37		50 52	52.3 52. 46.5 47.	0 2	3	52	48.7 40	.0 2	7
50 52 54 56 58	60.4 62.0 60.8 62.1	46 46	1	54 56	51.I 54.0	53.2			51 56 58	43.7 44. 43.6 44. 46.6 46.	I I		54 56 58	47.3 48 47.7 48 48.0 48		5

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Scale readings Left Right	East decli- nation.	Temp. C.	Chr'r time	readi	ngs	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	nation		Chr'r time	read	lings	East decli- nation	Tem; C.
d d	0,	•	h m	d	d	0 /	•	h m	đ đ	· ,	•	h m	đ	ď	• ,	•
45.0 45.8 43.8 46.1 44.8 46.6 44.0 47.2	21 20 22 21	-7.9	18 00 02 04 06 08	54.6 55.2 55.3 54.9	57.0 56.0 56.2 57.0 56.2	22 37 37 37 38 37 36	-10.0	20 00 02 04 06 08	41.8 43.2 41.0 43.1 37.0 37.1 36.2 38.5	17 16 08 22 08	-10.9	22 00 02 04 06 08	44.3 43.6 40.5 42.5 45.3	55.1 53.8 49.0 51.0 53.1	22 33 32 25 29 33	-11.9
45.7 47.7 44.6 47.3 47.0 48.0 48.0 48.8 50.5 51.8 51.1 52.0	23 22 25 26 30 31	-8.0	12 14 16 18 20 22	54.1 53.5 52.4 52.5 51.6 51.6	55.5 55.2 55.9 55.7 55.2 55.0	36 35 35 35 34 34	-10.0	12 14 16* 18 20 22*	25.3 31.6 42.5a 23.1 31.5 23.2 70.6 Lost 62.0 62.6	21 54 22 17 23 08 23 38		12 14 16 18 20 22	49.0 49.3 51.7 51.8 51.1 49.4	54.2 53.9 56.3 57.0 56.0 54.3	36 36 40 41 30 37	-12.0
54.0 54.8 54.3 55.0 54.2 55.7 54.9 55.2 55.2 55.5	35 36 36 36 37	-8.5	26 28 30 32	53.9 54.0 55.0 55.2 55.5	59.0	37 38 39 40	-10.2	24* 26 28* 30 32* 34*	47.5 69.0 31.0 55.3 12.5 48.5 17.4 51.1 20.0 59.0	56 60 24 40 22 49 21	-10.9	24 26 28 30 32 34	47.9 45.5 46.0 46.8 47.2 47.0	51.2 49.9 50.2 51.2 52.0 53.0	33 30 31 32 33 34	-12.1
54.0 54.7 53.6 54.1 54.9 55.9 53.7 55.3 52.9 56.0 53.2 56.5	35 34 37 36 35 35	-9.0	38 40 42 44 46 48	55.2 54.0 54.5 54.5 54.0 52.1	59.0 58.5 59.0 59.0 58.8 57.0	40 38 39 39 38 36	-10.3	40 42 44 46 48	22.0 50.0 11.0 38.8 12.0 39.1 9.5 36.9 18.8 38.1 16.1 41.1	22 16 21 58 59 21 55 22 04 04	-10.9	40 42 44 46 48	49.5 50.0 50.0 50.3 51.0 51.2	55.1 55.6 56.0 56.0 55.7	37 38 38 39 39 39	-12.2
52.5 55.0 51.2 54.0 51.7 53.2 51.9 52.9 52.8 53.6 53.2 56.1	34 32 32 32 33 36	-9.3	52 54 56 58 19 00 02	50.5 50.7 50.2 53.0 50.8 50.0	53.9 53.2 52.9 55.3 <b>52.8</b> 53.1	32 31 31 35 31 31	-10.3	52 54 56* 58 21 00.3	41.0 63.0 61.8 74.5 32.2 78.0 17.2 62.2 10.8 43.0 14.1 57.0	22 41 23 06 33 23 09 22 49 23 02	-11.0	52 54 56 58 23 00 02	51.7 50.8 50.5 49.8 49.0 50.1	55·3 54·5 53·5 52·5 52·4 52·8	39 38 37 36 35 36	-12.5
51.0 55.0 50.9 55.1 52.3 56.1 53.0 56.2 51.3 56.9	34 33 33 35 36	-9.6	10 12 14 16 18	50.0 49.0 49.2 49.0 48.1 49.0	53.2 52.2 53.2 53.5	31 30 30 30 29 29	-10.4	06 08* 10 12 14 16 18	15.1 45.7 17.6 48.5 21.0 53.1 24.0 54.0 22.8 50.1 26.2 51.8 29.0 53.0	54 07 13 17 12 17	-11.0	06 08 10 12 14 16 18	49.5 47.0 47.0 47.0 46.0 45.0 44.7	53.9 51.5 52.1 52.4 51.2 52.1 51.6	33 33 33 32 31 31	-12.6
54.0 58.9 54.7 59.7 54.0 59.0 53.1 58.6 52.3 57.5 52.0 56.3	40 39 38 36 35	-9.7	22 24 26 28 30 32	50.0 50.3 50.2 49.5 49.8 49.0	54.0 53.0 53.0 52.0	32 31 31 30 30 29 29	-10.6	22 24 26 28 30 32	32.0 53.2 35.0 54.8 35.0 52.8 36.0 53.0 37.2 54.2 42.0 56.7	22 26 24 25 27 33	-11.2	22 24 26 28 30 32	45.0 46.0 46.2 46.1 46.5	51.6 52.0 52.2 51.3 52.0 52.0	31 32 33 32 33 34	-12.8
	36 35 36 36	-9.8	36 38 40 42 44 46 48 50 52	48.5 47.9 48.0 49.0 48.3 46.2 45.7 45.8	49.5 48.5 48.9 49.3 48.9 48.3	27 26 26 27 26 24 23 23	-10.8	36 38 40 42 44 46 48 50	38.5 50.2 38.2 49.2 38.4 49.7 41.7 52.0 42.7 51.9 42.0 53.1 44.0 56.1	25 24 24 29 30 30 34 40	-11.3	346 38 40 42 44 46 48 50 52	48.1 48.0 48.7 47.9 46.7 45.7 45.3 43.0 41.5 38.8	52.0 51.1 51.2 51.5 50.4 50.2 49.3 47.8 46.4	33 34 33 34 33 31 30 27 24	-13.0
	readings  Left Right  d 47.7 45.0 45.8 43.8 46.1 44.8 46.6 44.0 47.7 44.6 47.7 44.6 47.7 44.6 48.0 55.5 55.7 55.2 55.3 55.3 55.3 55.3 55.3 55.3 55.3 55.3 55.3	readings declination.    d	readings Left Right  d d 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	readings Left Right  d d d 22 24 44.8 46.6 22 06 44.9 47.2 21 08 44.9 47.6 42.4 46.6 47.3 42.6 48.8 26 55.5 51.8 30 51.1 52.0 31 52.6 53.7 53.3 55.8 54.2 55.7 56.9 55.2 55.5 55.8 55.3 55.3 55.5 55.3 55.3 55.5 55.3 55.3 55.5 55.3 55	readings Left Right  d  d  d  d  d  d  d  d  d  d  d  d  d	readings         declination.         Temp. C	readings declination. C. Temp. nation. C. hm d d d o o o o o o o o o o o o o o o o	Teadings	Teadings	Teadings	Chir   C.   Chir   Chir   C.   Chir   Chir   C.   Chir   Chir   C.   Chir   Ch	readings decli. Temp. antion C. Left Right  d d d ° ' ° h m d d d ° ' ° h h m d d d 20 ° 0 2 41.6 81.6 1.7 1.7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	readings decli- Temp, antion.  Left Right  d d o o o o o o o o o o o o o o o o o	readings lation. C. time Left Right  d d d d d d d d d d d d d d d d d d d	readings decli   Temp. attion   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r     readings   C.   Chr'r     readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   Chr.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   C.   Chr'r   readings   Chr.   Chr'r   readings   Chr.   Chr'r   readings   Chr.   Chr'r   readings   Chr.   Chr'r   readings   Chr.	readings decli- Temp, Left Right attion. C. time Left Right C. time Left Right attion. C. time Left Right Attion. C. time Left Right attion. C. time Left Ri

Observer-J. V.

Correction to local mean time is —48.5s.

Torsion head at oh oom read 18° and at 24h 18m read 18°.

Observer—J. V.

Thur	sday, M	Iarch	3, 1904			M	agnet s	scale inv	erted	Frida	ıy, Ma	rch 4,	1904				Magn	et scale	erect
Chr'r time	Sca readi	ings	East decli- nation		Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem,
h m боо	d 29.6	d 28.8	° ,	-18.9	h m 18 00	d 20.0	d 28.7	。 , 22 42	-16.3	h m	d 45.5	d 66.0	。, 22 46	-19.2	11 m 22 00	d 18.0	d 21.0	° ,	0
02 04	29.2	28.3 29.7	43 41	10.9	02	28.8	28.6 28.8	43	10.3	02* 04*	65.3	74.7	23 35	19.2	02	18.5	21.9	32	
<b>o</b> 6	29.2	28.7	42		04 06	29. I 29. 2	28.9	42 42		06	42.0 8.7	50.2 26.1	23 <b>0</b> 4		04 06	17.9	21.3 21.8	31 32	
10 80		29.8 30.6	41 39		08	29.4	29.0 29.2	42 41		10*	4I.I 52.2	55.9 69.1	22 56 23 35		08	19.2 20.2	21.9 22.8	32 34	
12 14	30.0	28.8	41	-0 -	12	30.3	29.8	40		12	52.0	62.2	30		12	19.8	22.2	33	-0.6
16		30.3 30.5	39	-18.3	14 16	30.8	30.3 30.8	40 39	-16.3	14 16	39.1 56.0	51.0 64.0	11 34	-19.0	14 16	20.0	22.9 23.0	33 33	-18.
18 20		31.2	38	٧.	18	31.0 31.0	30.6	.39		18 20	49.8 43.0	59.8 50.8	26 13		18 20	19.0	22.7 22.7	33	
22	31.9	30.8	38	*, <u>\$</u>	22	31.3	30.7 31.1	39 39		22	41.0	47.7	09		22	20.0	23.0	33 34	
24 26		31.1	39 39 38 38 38 38 39 38 39 38 38 38 38 38 38 38 38 38 38 38 38 38	]	24 26	30.0 30.1	29.5 29.4	41 41		24 26	41.8 38.1	49.9 42.7	12 03		24 26	22.0 22.8	24.8 25.0	37 37	ļ
28	32.3	31.2	38	-18.o	28	30.2	29.3	41		28	35.4	40.6	00		28	22.8	25.0	37	
30 32		31.3 31.2	38	-16.0	30 32	30.3	29.6 29.8	41 40	-16.3	30 32	37.8 43.5	42.3 47.9	03 23 I2	-19. <b>0</b>	30 32	22.I 20.I	24.0 23.0	36 34	-18.7
34 36 38		31.0	38		34 36	29.7 29.9	29.I 29.4	4I 4I		34 36	37.0 31.7	38.0 35.3	22 59 52		34 36 38	20.3	$\frac{22.7}{22.3}$	34 33	
38	32.0	31.3	38		38	30.5	29.9	40		38	19.5	30.0	39		38	20.3	22.9	34	
40 42		31.4	38 38		40 42	30.8 30.6	30.2	40		40 42	40.5 37.2	35·3 42.0	22 59 23 02		40 42	20.4 18.9	22.5 20.0	33 30	
44 46	30.2	29.6	41	-17.2	44	30.5	29.9	40	-16.3	44	27.0	32.0	22 46	-119.0	44 46	18.7	20.I	30	
48		29.7 29.6	40 41		44 46 48	30.6	30.I 30.I	40 40		46 48	25.0 23.8	30.1 26.8	43 40		48	18.6 18.9	20.0 19.6	30 30	
50 52		29.1 29.9	41 40		50 52	30.8	30.3 31.0	40 39		50 52	19.0 37.5	22.0 4I.0	22 32 23 OI		50 52	19.4 17.1	20.7 18.8	31 28	
54	30.0	29.6	41		54	31.0	31.0	30		54 56	37.0	38.9	22 59		54	18.5	19.0	29	
56 58		29.7 20.1	41 42		56 58	31.5	31.3 31.6	38 38		50 58	24.5 22.0	29.0 28.0	42 39		54 56 58	17.0 16.8	18.0 17.2	27 27	
00		28.9	42	-17.3	19 00	32.0	31.8	38	-16.2	2I 00 02	30.7 26.1	36.7 32.0	53	-19.2	23 00 02	16.2 15.0	16.9 16.2	26	-18.8
04	30.5	29.9 30.2	40 40		02	33.7	33·4 33.1	35 35 36		04	31.3	35.3	45 52		04	16.2	17.1	24 26	
об 08		29.9 29.2	40 41		o6 o8	33.3	32.9 33.0	36 36		об <b>o</b> 8	28.2 26.3	34·7 29.8	49 44		o6 o8	16.2 16.0	17.0 16.8	26 26	
IO	30.3	29.9	40		TO	32.5	32.I	37		10	23.0	26.0	44 38		10	15.5	іб.о	25	
I2 I4		30.1 30.4	40 40	-17.0	12 14	32.3	31.7 31.2	37 38	-16.1	12 14	17.0	21.3 20.8	30 29	-19.1	12 14	16.3	17.3 17.9	26 27	-18.8
16 18	30.3	29.9 29.3	40		16 18	35.2 36.8	33.9 36.2	33 30.		18	18.8	21.5 22.0	32 32		18	17.3 17.8 17.3	19.4	29	
20	29.8	29.2	4I 4I		20	36.6	35.8	31		20	19.0	21.0	31		20	15.8	18.0	29 26	
22 24		29.3	41 41		22 24	37·3 36.9	36.8 35.2	30. 31		22 24	20.0 20.7	21.8	33 33		22 24	15.7 16.2	18.0 18.2	26 27	
26	29.7 2	29. I	41	*.	26	36.0	35.3	32		26 28	20.4	22.0 21.8	33		26 28	17.0	19.0	28	
28 30	20.4 2	20.0	4I 42	-16.9	28 30	35·9 35·4	34·9 34·7	32 33	-16.o	30	19.7 19.7	21.4	32 32	-19.0	30	17.0 19.1	19.3 21.0	28 31	-18.8
32	20. I 2	28.7	42		32	35·9 36·4	35.0 35.5	32 31		32	20.0 21.0	21.9 23.0	33 34		32	2I.0 2I.0	21.8	33	
34 36 38	20.0 2	28.7	42 42		34 36	37.5	36.6	30		34·5 36·5	21.7	23.3	35		34 36	21.0	23.7	33 35	
38 40	20.0 2	28.6 28.0	42 44		38 40	37.1 37.0	36.7 36.7	30 30		38 40	21.3 22.4	23.5 24.0	34 36		38 40	21.0 22.3	23.8 24.5	35 37	
42	27.6 2	27.3	45	_	42	37.2	36.4	30		42	20.7	22.0	33	70.0	42	23.5	25.9	39	-0.
44 46	28.4 2 28.7 2	28.0 28.2	43	-16.5	44 46	37.0 35.7	36.4 35.3	30 32	-15.9	44 46	20.6 20.3	2I.3 2I.3	33 33	-19.0	44 46	25.0 25.5	27.I 27.I	41 41	-18.8
44 46 48	28.9 2	8.4	43		48	35.7	36.2	31		48	21.0	21.8	33		48	25.5 25.8	27. I 26. 7	41	
50 52		8.8	43		50 52	36.5 36.8	36.2 35.7	31 31		50 52	18.6	21.2	33 31		50 52	25.0 21.8	22.7	41 35	
50 52 54 56 58	20.0 2	7.2	43		54 56	36.2 36.2	34.9	32 32		54 56	18.9 18.4	2I.9 2I.3	31 31		54 56 58	27.2 29.3	28.5 33.0	44	
58	28.6 2 28.9 2	8.7	43 42		58	35.9	35.I 34.3	32		58		21.0		-18.8		30.2	33.2	49 50	
				1	20 00	36.2	35.7	31	-16.0	1					24 00	31.0	32.5	50	-18.

Correction to local mean time is — 1m 18s.

Torsion head at 15h 35m read 18° and at 20h 10m read the same.

Observer—H. H. N.

Correction to local mean time is — 1m 15.5s.

Torsion head at 19h 25m read 16° and at 24h 20m read the same.

Observer—J. V.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

	day, March 8	, 1904			wiagn	et scale	erect	Wed	nesday, Marc	, 190	4		TATE	agnet	cale inv	er teu
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem; C.
h m	d d	0 ,	0	h m	d d	0 /	•	h m	d d	0 /	0	h m	d	ď	0 ,	0
2 00	53.2 54.8 52.6 54.7	22 39	-20.2	14 00 02	52.0 52.5 55.2 55.7	22 36 41	-19.0	0 00	50.3 48.9 50.2 49.1	22 45 45	-20.2	2 00 02	47.9 48.3	47.6 48.0	22 48 48	-19.2
04 06	51.9 52.0	39 36		04 06	48.8 49.2 48.0b	31		04	50.1 49.0 50.0 49.1	45 45		<b>0</b> 4 06	47·4 47.8	47.I 47.7	49 48	
o8	52.3 52.5 51.8 53.4	37 37		о8	46.5 47.1	30 28		<b>o</b> 8	50.6 49.7	44		08	47.7	47.7	49	
10 12	51.6 52.1 50.8 51.3	36 34		I0 I2	46.3 47.5 47.6 48.0	28 29		10 12	50.9 49.8 51.0 50.2	44 44		10 12	46.9	46.7	49 50	
14 16	54.2 54.9 53.1 53.9	40 38	-20.0	14 16	47.7 48.3 47.0 48.2	30 29	-19.0	14 16	51.7 50.8	43 43	-20.5	14 16	47.2 47.8	46.9 47.5	50 49	-19.1
18 20	52.2 52.9 52.9 53.7	37 38		18 20	46.1 47.3 45.4 46.9	28 27	1	18 20	50.9 50.3 51.4 50.8	44 43		18 20	47.8 48.6	47.6 48.4	49 48 47	
22	52.3 53.2	37		22	45.9 47.3	28	7.0	22	51.2 50.7	43		22	48.7	48.2 48.1	47	
24 26	54.8 55.6 57.1 57.8	41 44 48		24 26	44.8 46.0	25 26		24 26	50.9 50.3 50.6 50.1	44 44		24 26	48.3 48.3	48.2	47 48 48 48	
28 30	59.1 60.3 57.6 59.4	48 46	-19.9	28 30	45.8 46.6 45.2 46.5	27 26	-19.0	28 30	50.4 49.9 50.7 50.3	45 44	-20.5	28 30	48.2 48.2	48.0 48.0	48	-19.0
32	55.5 57.0 53.1 54.4	43 39		32	44.6 45.3	25 23		32	50.9 50.3 50.8 50.3	44		32 34	48.6 48.0	48.3	47 47	
34 36 38	54.3 55.6	41		34 36 38	44.1 45.0	24 25		34 36 38	50.2 50.0	45 45		34 36 <b>38</b>	48.9 48.8 48.2	48.5 48.6 47.9	47 48	
40	53.2 55.0	43 39		40	44.7 45.4	25		40	51.0 50.8	43		40	47.8	47.4	49	
42 44	51.8 53.4 51.7 52.6	37 36	-19.9	42 44	47.6 48.5 48.0 49.2	30 31	-18.9	42 44 46	51.2 50.9 50.4 50.1	43 44	-20.4	42 44	48.7	48.4 48.8	47 46	-19.0
44 46 48	53.4 54.7 52.9 54.9	39 39		44 46 48	47.5 48.2 47.3 48.1	29 29		46 48	49.4 49.2 49.8 49.3	46 45		44 46 48	49.3	49.0	46 46	
50 52	54.2 56.0 57.1 58.3	41 45		50 52	49.4 49.8 49.2 49.9	32 32		50 52	49.2 48.8 48.7 48.4	45 46 47		50 52	48.9	48.5 48.6	47	
54 56	58.7 59.8	47		54	48.5 49.3	31		54	49.4 49.1	46		54 56	49.1 48.2	48.7	46	
58	55.7 56.9 53.9 55.3	43 40		54 56 58	49.6 49.8 48.9 49.8	32 32		54 56 58	49.8 49.3 49.8 49.6	45 45		58	48.3	47.9 48.1	48	
00	53.8 54.9 55.4 56.5	40 42	-19.9	15 00 02	49.0 49.7 50.2 50.9	32 34	-18.7	I 00 02	50.3 50.1 50.9 50.6	44	-20.I	3 00	48.1	47.8 47.7	47 46 48 48 48 48	-18.7
04 0б	56.2 56.7 55.3 56.6	43 42		04 06	50.1 50.4 51.2 51.9	33		04 06	51.0 50.7 51.1 51.0	43 43		04 06	47.1 48.3	46.9 48.0	50 48 46	
o8	53.1 54.0	38		o8	52.9 53.2	35 38 38		08	51.2 51.0	43		08	49.2	48.9 50.6	46 44	
IO I2	54.3 55.2 55.0 55.9	40 41		10 12	53.0 53.4 51.8 52.6	36		12	53.0 52.8	42 40		12	51.4	51.1	43	-0 4
14 16	53.5 54.2 53.4 54.3	39 39	-19.6	14 16	51.5 51.8 51.7 52.1	35 36	-18.5	14	54.I 54.3 55.2 55.0	38 37	-19.9	14 16	49.9	49.5 48.8	45 46 48	-18.6
18 20	51.5 52.7 48.8 50.3	36 32		18	50.8 51.2 47.6 47.9	34 29		18	55.4 55.1 55.1 54.8	37 37		18 20	47.9 48.4	47.7 48.3	48 47	
22	49.8 50.7	33		22	47.4 47.8	29	,	22 24	54.4 54.1 54.0 53.8	37 38 39		22 24	48.9 49.2	48.6 49.1	47 46	,
24 26	49.7 50.4 50.0 50.9	33 33		24 26	47.2 47.9 48.6 48.9	31		26	53.2 53.0	40		26	49.2 49.8 48.8	48.9	46	
28 30	50.8 51.8 53.3 54.1	35 39	-19.5	28 30	49.0 <i>a</i> 49.6 49.8	31	-18.4	28 30	53.1 52.6 52.8 52.4	40 41	-19.9	28 30	49.2 48.1	48.6 48.9	47 46 48	-18.
32 34	53.9 54.4 55.8 57.0	39 43		32 34	50.2 50.7 50.6 51.0	33 34		32 34	51.1 50.8 49.9 49.4	43 45		32 34	48.8	48.0 48.6	48 47 46	
34 36 38	54.7 55.9 53.1 53.9	41 38		36 38	51.3 52.0 48.3 49.0	35 31		36 38	49.5 49.2 48.8 48.7 48.8 48.8	45 46 47		34 36 38	49.1	48.8	46 47	
40	53.5 54.4	39		40	49.8 50.6	33		40	48.8 48.8	47		40	47.3	47.7 46.8 46.1	50	
42 44 46	53.5 53.9	39 39	-19.1	42   44	50.5 51.2	34 34	-18.3	42 44	49.0 48.7 48.9 48.8	47 47 48	-19.6	42 44	46.4 47.2	46.8	51 50 48	-18.
46 4 <b>8</b>	53.8 54.6 53.6 53.8	39 30		46 48	49.3 49.9 50.0 50.3	32 33		46 48	48.4 47.9 46.8 46.5	48 50		46 <b>48</b>	47.9 47.2	47.7 46.9	48 50	
50	53.2 53.7 54.3 54.6	38 40		50 52	49.8 50.1 50.3 50.4	33 33		50 52	47.0 46.8 47.3 47.2	50 49		50 52	47·3 48.8	47.0 48.3	49 47	
52 54 56 58	52.9 53.4	38		54 56	51.8 52.1	36 36		54 56	47.2 47.1 47.0 46.3	49		50 52 54 56 58	48.5	48.2	47 48	
58 58	53.0 53.6 52.9 53.8	38 38		50 58 16 00	51.9 52.4 51.0 51.7 51.2 51.4	35	-18.3	58	47.3 47.1	50 49		58	47.6	47·7 47·2	49	

Observer-H. H. N.

Observer-H. H. N.

Correction to local mean time is — 2m 44s.

Torsion head at 11h 30m read 19° and at 16h 40m read the same.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedr	nesday, March	h <b>9</b> , 190a	4		Magnet s	scale inv	erted	Thur	sday, March	10, 1904		Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp C.
h m 4 00 02 04 06 08	d d 48.9 48.2 50.0 49.7 49.6 49.1 48.3 47.9 47.8 47.4 47.6 47.2	° , 22 47 45 46 48 49	-18.0	h m 6 00 02 04 06 08	d d 43.7 43.2 39.8 39.1 44.9 44.3 48.2 47.7 46.7 46.1	22 55 23 01 22 53 48 50 51	-17.6	h m 16 00 02 04 05 08 10	d d 44.9 45.8 43.1 45.3 43.2 44.4 43.5 44.6 44.6 45.7 43.8 45.9	0 / 0 22 32 -23.4 30 30 30 30 32 31	h m 18 00 02 04 06 08 10	d d 49.7 52.4 50.7 52.3 51.8 54.8 53.9 54.6 52.7 53.8 53.3 54.2	22 41 42 44 46 44 45	° -22.9
12 14 16 18 20 22 24 26	48.3 47.9 47.6 47.4 47.7 47.4 48.4 48.1 48.8 48.5 49.4 49.1 49.9 49.6	49 48 49 49 48 47 46 45	-18.0	12 14 16 18 20 22	46.2 45.9 48.7 48.1 51.4 51.1 46.8 45.4 41.7 40.8 41.9 41.3 43.3 42.9 45.8 45.2 48.7 48.3	47 43 51 59 58 56 52	-17.5	12 14 16 18 20 22 24 26	44.4 46.2 44.5 46.2 45.3 46.9 47.4 48.3 48.9 50.2 48.3 49.5 48.5 51.2	32 32 33 36 38 38 38 39	12 14 16 18 20 22 24 26	54.0 55.3 54.7 55.4 54.9 55.8 54.7 55.3 52.8 54.1 51.9 52.7 51.1 51.3 49.6 51.2	45 46 47 48 47 45 43 41 40	-22.7
20 28 30 32 34 36 38 40	50.4 49.9 47.9 47.4 46.3 45.4 46.9 46.1 48.8 48.1 49.3 48.7 48.5 47.7 47.1 46.2	45 49 51 50 47 46 48 50 48	-18.0	26 28 30 32 34 36 38 40	Light failed	47		28 30 32 34 36 38 40	48.9 50.7 50.8 54.0 50.7 53.8 51.2 55.0 51.6 54.9 51.3 54.6 51.2 54.4 51.1 54.3	39 43 43 -23.3 44 44 44 44 44	28 30 32 34 36 38 40	48.2 49.0 47.7 48.2 47.2 47.9 46.2 47.0 45.7 46.5 45.8 46.4 45.7 46.5	37 36 35 34 33 33 33	-22.7
42 44 46 48 50 52 54 56 58	48.3 47.5 47.1 46.3 47.2 46.9 47.1 46.4 46.0 45.8 46.5 46.1 48.2 47.6 49.1 48.6	50 50 50 51 50 48	-18.0	42 44 46 48 50 52 54 56			•	42 44 46 48 50 52 54 56 58	50.2 54.2 51.2 53.8 51.8 54.7 52.2 55.9 52.3 56.4 52.2 56.5 52.6 55.7 52.8 54.5	43 43 44 45 46 46 46 46 47	42 44 46 48 50 52 54 56	45.5 46.2 45.3 46.1 45.4 45.6 45.7 46.3 45.6 47.8 47.5 48.4 47.6 48.5 47.2 48.0	33 32 32 33 34 36 36 36	-22.4
5 00 02 04 06 08 10	48.3 47.8 48.2 47.7 48.2 47.9 47.4 47.1 47.2 46.0 47.3 47.1 47.0 46.7	47 48 48 48 49 50 49	-18.0	58 7 00 02 04 06 08 10	\$ 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			58 17 00 02 04 06 08 10	52.0 54.7 51.4 53.7 51.2 52.9 50.1 50.9 49.3 49.8 48.2 48.6 47.5 47.8	44 43 42 40 38 37	58 19 00 02 04 06 08 10	49.0 49.9 50.5 51.6 53.7 54.8 53.1 54.3 58.7 59.3 60.2 60.9 59.6 60.3 59.4 59.9	35 38 41 40 45 53 56 55 54	-22.3
12 14 16 18 20 22 24 26	48.9 48.2 49.9 49.7 50.1 49.6 49.3 49.1 48.8 48.6 47.9 47.3 46.5 46.1	47 45 45 46 47 49 49 50	-17.9	12 14 16 18 20 22 24 26				14 16 18 20 22 24 26	47.6 48.9 47.4 48.6 47.3 48.8 47.8 49.7 48.1 49.7 48.2 50.0 47.8 49.9	35 36 36 36 36 37 38 37 38 37 38	14 16 18 20 22 24 26	57.7 58.0 57.9 58.3 56.8 57.3 55.9 56.0 56.1 56.3 57.4 58.2 58.3 58.7	52 52 50 48 49 52 53	
28 30 32 34 36 38 40	46.4 46.3 47.2 47.0 47.3 46.9 47.9 47.5 46.0b 50.2 50.0 47.0 46.8	50 49 49 48 51 45 50	-17.9	28 30 32 34 36 38 40				28 30 32 34 36 38 40	48.1 49.7 47.7 49.8 46.6 49.1 47.0 49.6 48.2 49.7 46.8 48.7 47.0 47.5 47.1 47.9	38 37 36 37 38 36 35 35	28 30 32 34 36 38 40 42	62.2 62.7 61.8 62.1 59.3 59.5 58.8 59.0 59.6 60.1 59.5 59.9 59.4 60.0 58.3 58.8	59 58 54 53 55 54	
42 44 46 48 50 52 54 56 58	46.7 46.6 46.8 46.6 47.3 46.8 47.8 47.5 46.8 46.4 46.2 45.9 49.0 48.8 48.1 47.5	50 50 50 49 50 50 51 46 48	-17.7	42 44 46 48 50 52 54 56 58		r F		42 44 46 48 50 52 54 56 58	47.1 47.9 46.6 47.0 46.5 46.8 47.2 47.5 46.8 48.7 48.3 50.2 50.1 53.8 51.1 53.3 50.6 53.4	34 34 35 36 38 42 43	44 46 48 50 52 54 56 58	57.9 58.6 57.6 59.7 57.8 59.5 57.6 58.5 58.2 60.3 63.1 64.0 61.4 61.9 59.8 61.0	53 53 53 53 52 22 54 23 00 22 57	

Correction to local mean time is — 2m 47s.

Torsion head at oh oom read 19° and at 6h 30m read 18°.

Observer—H. H. N.

Correction to local mean time is — 3m 33.5s. 90° torsion = 20.'41. Torsion head at 15h 20m read 15° and at 20h 30m read 13°. Observer—H. N.

# SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

# Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Frida	y, March 11	, 1904			M	agnet s	cale inv	erted	Sund	ay, Ma	arch 13	3, 1904				Magn	et scale	erect
time	Scale Scale Left Right	East East nation.	C.	time	Sc	ale ale Right	East East nation	C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Tem C.
h m	d d	0 ,	0	h m	d	ď	0 ,	•	h m	đ	đ	0 ,	•	h m	d	ď	٠,	0
00 02 04 06	58.8 57.6 58.5 57.4 59.2 58.1 60.1 59.3	22 I9 20 18	-20. I	22 00 02 04 06	64.9 58.8 59.5 61.8	55.8 49.4 51.9	22 I6 25 23	-19.3	0 00† 02.4 04	57.7	45.8 61.7 61.8	22 32 51 52	-28.7	2 00 02 04 06	56.4 56.5 55.8	57.0° 57.3 56.7	22 48 48 47	-24.0
08 10	60.1 59.3 59.9 58.7 58.3 57.6 58.9 58.3	17 17 20 18		08	56.1 32.8 49.8	51.1 46.9 21.7	22 22 30 23 08		08 10	58.1 57.9 55.9	61.9 61.3 58.8	53 52 48		08 01	55.9 56.0 55.7	56.7 56.8 56.1	47 17 16	
14 16 18	60.3 59.9 60.4 59.7	16 16	-20. I	12 14 16 18	55·3 56.7	43.2 46.5 46.6	22 37 30 29	-19.0	12 14 16 18	54.9 53.8 51.8	57.1 55.9 53.9	46 44 41	-28.0	12 14 16 18	56.0 55.1 54.7	56.0 55.8 55.0	46 45 44	-23.8
20 22 24	59.8 59.3 59.8 59.2 58.4 57.9 60.9 59.6	17 17 19 16		20 22	59.3 58.1 54.2	51.2 50.3 47.6	24 25 30		20 22	51.0 49.8 49.9	53·3 52·2 52·1	40 38 38		20 22	54.9 59.	57.8	45 51 48	
26 28 30	60.8 59.9 60.3 59.2 60.2 59.5	16 17 16	-20.2	24 26 28 30	54.7 57.8 57.9 57.7	47.1 50.9 51.8 51.7	30 25 24 24	-18.8	24 26 28 30	49.0 48.1 48.1 48.1	50.9 50.1 50.3 49.8	37 36 36	27.0	24 26 28	59.2 61.2 61.0	60.0 61.2 61.2	52 54 54	
32 34 36 38	61.8 60.6 63.3 61.6 66.8 65.7	14 12 06	20.2	32 34 36 38	56.9 58.8 57.8	51.2 54.3 53.6	26 22 23	-10.0	32 34 36	48.0 46.3 46.1	50.6 48.8 48.6	35 36 33	-27.0	30 32 34	60.5 60.9 60.1	63.1 62.0	54 56 54	-23.5
38 40 42	69.6 65.3 71.8 69.4 70.9 68.6	05 00 01		38 40 42	46.8 55.2 47.9	43.8 51.0 45.4	39 27 37		38 40 42	46.1 47.2 47.8	48.2 49.1 49.5	33 32 34		34 36 38 40	60.7 61.0 58.1	62.8 62.8 60.1 62.0	54 55 56 51	
44 46 48	69.5 67.2 70.0 67.3 68.6 65.9	03 03	-20.I	44 46 48	40.0 49.9 49.7	46.0 46.2 47.1	36 35 34	-18.7	44 46 48	48.3 49.8 50.2	50.2 50.9 51.2	35 36 37 38	-26.3	42 44 46 48	59.9 61.3 60.2 59.2	63.2 62.9 62.2	54 56 55	-23.2
50 52	67.4 65.2 67.1 65.6 67.0 65.5	05 06 06		50 52	46.1 46.8 47.6	43.4 43.2 46.1	40 40 37		50 52	51.1 53.1 55.6	52.0 53.8 56.1	39 42 46		50 52	60.0 61.1 59.7	63.2 63.8 62.2	54 55 56 54	
54 56 58 21 00	63.5 61.6 59.2 57.8 56.5 54.8	12 18 23	-20.0	54 56 58 23 00	46.2 42.8 45.5	43.7 39.9 44.3	40 46 40	-18.7	54 56 58 1 00	56.8 56.1 56.2	56.8 56.8 56.5	48 47 47	-25.8	54 56 58 3 00	59.3 60.1 60.4	62.2 61.8 62.0	54 54 54	-23.0
02 04 06	58.8 57.1 51.8 50.6 50.5 49.1	20 30 32		02 04 06	50.2 49.6 50.2	47.4 46.3 46.8	34 35 34		02 04 06	58.0 58.9 57.0	59.2 59.8 57.9	50 52 49		02 04 06	61.5 63.6 66.1	63.1 64.9 68.0	56 22 59 23 04	
08 10 12	50.9 49.2 52.3 50.4 50.6 49.2	32 30 32		08 10 12	47.6 49.8 47.3	45.5 47.1 45.5	37 34 38		08 10 12	57.8 58.8 57.8	58.7 59.3 58.1	50 51 40		08 10 12	68.1 67.2 64.9	69.7 60.3 66.8	07 06 02	
14 16 18	51.3 49.9 50.8 49.5 51.6 51.1	31 32 30	-19.8	14 16 18	49.6 47.9 50.8	47.7 45.6 49.1	34 37 32	-18.2	14 16 18	57.6 57.8	57.4 58.0 58.4	48 49 50	-25.4	14 16 18	65.2 65.2 63.9	65.8 66.9 65.2	02 23 02 22 60	-22.0
20 22 24	54.4 53.6 59.9 58.0 63.5 60.7 62.8 58.3	26 18 13		20 22 24	52.9 52.0 52.2	50.7 50.6 50.9	29 30 30	-	20 22 24	57.9 58.1 58.8	58.8 59.0 59.7	50 50 51		20 22 24	61.9 61.8 63.0	63.0 62.8 63.9	56 56 58	
26 28 30	62.8 58.3 45.8 40.0 34.6 13.8 32.0 8.1		-19.6	26 28 30	46.9 45.2 46.3	44.0 45.4	37 40 38	-18.0	26 28 30	61.6	62.5 65.9	53 22 56 23 OI	-25.0	26 28 30	60.8 59.8	62.0 61.8 61.1	56 55 53	-22.8
32 34 36 38	30.2 II.8 48.2 3I.I 36.3 26.5	23 17 22 48 23 01		32 34 36 38	45.7 46.4 46.9 45.4	44.9 45.8 46.3 45.1	39 38 37		32 34 36 38	67.2 68.9	66.9 68.0 69.9	02 04 07		32 34 36	59.8 60.1	61.9	54 53 54 56	
40 42	60.0 51.5 58.9 50.3 48.2 38.7	22 23 25 42	~19.5	40 42	43.1 44.2 44.5	42.5 43.5 44.0	39 43 42 41	-18.o	40 42	67.1 64.8	69.8 67.8 65.5	07 04 23 01	6	38 40 42	бі. і 59.8	62.9 62.1 60.7	55 53	20 8
44 46 48 50	65.4 53.0 54.6 44.2 26.8 18.3	17 22 33 23 15	-9.3	44 46 48 50	44.4 44.3 45.6	43.9 43.8 45.0	41 41 41 39		44 46 48 50	61.7 62.1	64.8 63.0 63.2 63.9	22 59 56 57 58	-24.6	44 46 48	57·5 56.2	59.0 58.3 57.1	50 49 47	-22.7
52 54 56 58	25.3 20.1 53.3 40.4 58.7 48.8	23 I5 22 37 26		52 54 56	44.7 42.6 41.8		40 44 45		52 54 56	62.7 60.5 57.9	63.8 61.5 58.9	58 54 50		50 52 54 56	53.I 53.9	56.8 53.9 54.2 56.4	47 42 43	
58	68.2 53.7	15		58 24 00	41.2 40.6	40.4	46 47		58	56.9	57.6	48		54 56 58	55.4 57.1	58.6	70 70	

Correction to local mean time is — 3m 47.5s.

Torsion head at 19h 15m read 13° and at oh oom read 14°

Observer—H. H. N.

Observer—R. R. T. † Scale inverted for this reading.

m 00.1 2 20 4 2 6 6 6 7 10 112 114 116 118 118 118 119 119 119 119 119 119 119	Scale readings  Left Right  d 49.6 45.2 48.9 44.4 47.8 44.2 43.1 46.9 45.3 44.6 45.7 44.2 43.1 45.8 45.7 44.2 43.8 45.7 44.2 43.8 45.8 45.7 44.2 43.8 45.8 45.7 44.2 43.8 45.8 44.7 46.8 43.1 46.7 43.2 45.8 44.1 46.7 43.2 45.8 44.5 8 45.5 8 44.5 8 45.5 8 4	22 50 51 53 52 53 55 54 56 52 58 56 58 56 58 56 58 56 57 58 58 58 58 58 58 58 58 58 58 58 58 58	Temp. C22.2	Chr'r time  h m 6 00 02 04 06 08 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42	Scale readings Left Right  d d 50.0b 32.9 32.4 38.0 36.6 45.2 44.0 39.9 39.8 46.7 45.2 37.2 36.2 44.8 41.3 38.6 37.1 43.3 41.9 43.8 42.8 36.0 34.8 36.0 34.8 36.2 35.0 42.0 40.9 38.9 37.2 37.2 34.3 36.2 35.0 45.9 43.1 29.26 31.8 30.1 38.4 35.9 30.8 27.9	East declination  22 46 23 13 23 06 22 55 23 02 22 52 23 07 22 57 23 05 22 58 22 56 23 09 00 05 08 23 09 22 55 23 19 16 06 18	Temp. C21.3	Chr'r time  h m 8 00 02 04 06 08 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38	Scale readings Left Right  d d 33.5 42.5 34.0 39.5 35.1 37.1 38.3 39.0 37.3 39.5 27.0 32.0 37.0 39.4 33.0 37.8 39.0 37.1 39.0 35.0 35.9 34.2 36.8 37.1 30.0 37.3 38.5 37.3 39.0 37.3 38.5 37.3 39.0 35.7 37.2 32.8 34.0	East declination.  22 57 55 54 58 44 56 57 54 550 57 57 55 57 55 55 55 55 55 55 55 55 55	Temp. C28.4	Chr'r time  h m 10 00 02 04 06 08 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38	Scareadi Left d 31.0 30.8 30.2 28.8 29.0 20.0 28.2 27.9 28.1 27.7 27.2 27.9 28.1 27.7 27.2 27.9	d 31.3 31.0 31.7 30.4 31.7 32.1 31.2 30.9 31.0 32.1 31.2 31.8 31.3 32.2 30.8 31.1	East declination  22 46 46 44 45 45 45 44 44 44 44 44 44 44 44 44	Tem C.
00. I 2 2 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	49.6 45.2 44.4 47.8 44.2 43.1 44.2 43.2 45.3 44.2 45.3 44.2 45.8 45.7 44.8 44.7 45.8 45.7 44.8 44.1 45.8 45.7 44.8 44.1 45.8 45.7 44.8 45.7 44.8 45.7 44.8 45.7 44.8 45.7 45.8 4	22 50 51 53 52 53 53 55 56 52 58 56 58 56 57 58 58 58 58 58 58 58 58 58 58 58 58 58	-22.0	6 00 02 04 06 08 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42	50.0b 32.9 32.4 38.0 36.6 45.2 44.0 39.9 39.8 46.7 45.2 37.2 36.2 44.8 41.3 38.6 37.1 43.3 42.8 36.0 34.8 36.2 35.0 42.0 40.9 38.9 37.2 37.2 34.3 36.2 35.0 45.9 43.1 29.20 31.8 30.1 38.4 35.9 30.8 27.9	22 46 23 13 23 06 22 55 23 02 22 52 23 57 23 05 22 58 22 56 23 09 00 05 08 23 09 22 55 23 19 16	-21.3	8 00 02 04 06 08 10 12 14 16 18 20 22 24 26 28 30 32	33.5 42.5 34.0 39.5 35.1 37.1 38.3 39.0 37.3 39.5 27.0 32.0 35.2 39.0 37.0 39.4 33.0 35.8 39.0 37.1 39.0 35.0 35.9 34.2 36.7 30.3 36.7 30.3 36.7 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0	22 57 555 58 58 58 44 56 57 53 53 53 57 57 57 57 55 55	-28.4 -28.0	10 00 02 04 06 08 10 12 14 16 18 20 22 24 26 28 30 32	31.0 30.8 30.2 28.8 29.0 29.0 28.2 27.9 28.1 27.7 27.2 27.9 28.1 27.7 27.2 27.9	31.3 31.0 31.7 30.4 31.7 32.1 31.2 30.9 31.0 32.1 31.2 31.8 31.3 32.2 30.8 31.1	22 46 46 44 45 45 45 44 44 46 45 44 44 44 44 44 43	-24.
02	49.6 45.2 44.4 47.8 44.2 43.1 44.2 43.2 45.3 44.2 45.3 44.2 45.8 45.7 44.8 44.7 45.8 45.7 44.8 44.1 45.8 45.7 44.8 44.1 45.8 45.7 44.8 45.7 44.8 45.7 44.8 45.7 44.8 45.7 45.8 4	51 53 53 52 53 56 52 54 56 58 56 58 56 58 56 58 56 57 58 58 58 58 58 58 58 58 58 58 58 58 58	-22.0	6 00 02 04 06 08 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42	50.0b 32.9 32.4 38.0 36.6 45.2 44.0 39.9 39.8 46.7 45.2 37.2 36.2 44.8 41.3 38.6 37.1 43.3 42.8 36.0 34.8 36.2 35.0 42.0 40.9 38.9 37.2 37.2 34.3 36.2 35.0 45.9 43.1 29.20 31.8 30.1 38.4 35.9 30.8 27.9	23 13 23 06 22 55 23 02 22 52 23 07 22 57 23 05 22 58 22 56 23 09 00 05 08 23 09 22 55 23 19 16	-21.0	8 00 02 04 06 08 10 12 14 16 18 20 22 24 26 28 30 32	33.5 42.5 34.0 39.5 35.1 37.1 38.3 39.0 37.3 39.5 27.0 32.0 35.2 39.0 37.0 39.4 33.0 35.8 39.0 37.1 39.0 35.0 35.9 34.2 36.7 30.3 36.7 30.3 36.7 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0 37.3 39.0	55 54 58 54 56 57 556 57 57 55 55 57 55 55 55 55 55 55 55 55	-28.0	02 04 06 08 10 12 14 16 18 20 22 24 26 28 30 32	30.8 30.2 28.8 29.0 28.2 27.9 28.1 27.7 27.2 27.9 28.1 27.7 27.2 27.9 28.1 27.7	31.0 31.7 30.4 31.7 32.1 31.2 30.9 31.0 32.1 32.1 31.2 31.8 31.3 32.2 30.8 31.1	46 44 45 45 44 44 46 45 44 44 45 43	-24
04	47.6 43.8 47.8 44.6 46.8 44.2 46.9 44.3 44.2 43.1 44.9 44.2 45.7 44.6 45.7 44.6 45.7 44.6 45.8 44.7 46.8 43.1 46.7 44.6 47.1 43.5 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.8 43.1 46.8 43.1 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6 46.7 43.6	53 52 53 53 53 55 56 52 54 58 56 53 54 56 56 57 57 58 58 58 58 58 58 58 58 58 58 58 58 58	-22.0	04 06 08 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42	38.0 36.6 45.2 44.0 39.9 39.8 46.7 45.2 37.2 36.2 44.8 41.3 38.6 37.1 43.3 41.9 43.8 42.8 36.0 34.8 36.2 35.0 42.0 40.9 38.9 37.2 37.2 35.0 45.9 43.1 29.2a 31.8 30.1 38.4 35.9 30.8 27.9	23 06 22 55 23 02 22 52 23 07 22 57 23 05 22 56 23 09 00 05 08 23 09 22 55 23 19 16		04 06 08 10 12 14 16 18 20 22 24 26 28 30 32	35.I 37.I 38.3 39.0 37.3 39.5 27.0 32.0 35.2 39.0 37.0 39.4 33.0 37.8 35.8 39.0 37.I 39.0 35.2 36.7 30.3 36.8 37.I 30.0 37.3 38.5 37.3 39.0 35.7 37.2 32.8 34.9	54 58 58 44 57 54 57 53 50 57 57 57 57 57 57 57 57		04 06 08 10 12 14 16 18 20 22 24 26 28 30 32	30.2 28.8 29.0 20.0 28.2 27.9 28.1 27.7 27.2 27.9 28.1 27.7 27.5 27.5 27.5	31.7 30.4 31.7 32.1 31.2 30.9 31.0 32.1 31.2 31.2 31.3 32.2 30.8 31.1	46 44 45 45 44 44 46 45 44 44 45 43	
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10	46.2 44.7 44.2 43.1 46.9 45.3 45.7 44.8 45.8 45.2 45.8 45.3 44.2 45.8 45.3 44.3 45.8 44.3 45.8 47.1 43.8 46.8 44.1 46.8 43.1 46.8 43.1 46.8 43.1 46.8 43.1 46.8 43.5 46.8 43.8	53 56 52 58 56 58 56 58 56 56 53 54 56 56 57 58 58 56 58 56 58 56 57 58 58 58 58 58 58 58 58 58 58 58 58 58	-22.0	12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42	46.7 45.2 37.2 36.2 44.8 41.3 38.6 37.1 43.3 41.9 43.8 42.8 36.0 34.8 36.2 35.0 42.0 40.9 38.9 37.2 37.2 34.3 36.2 35.0 45.9 43.1 29.28 31.8 30.1 38.4 35.9 30.8 27.9	22 52 23 07 22 57 23 05 22 58 22 56 23 09 00 05 08 23 09 22 55 23 19 16		12 14 16 18 20 22 24 26 28 30 32	27.0 32.0 35.2 39.0 37.0 39.4 33.0 37.8 35.8 39.0 37.1 39.0 35.0 35.9 34.2 36.7 30.3 36.8 37.1 30.0 37.3 38.5 37.3 39.0 35.7 34.9	44 56 57 54 56 57 53 53 59 57 57 57 57 55 57		12 14 16 18 20 22 24 26 28 30 32	28.2 27.9 28.1 20.2 28.1 27.7 27.2 27.9 28.1 27.1 27.7 25.8	31.2 30.9 31.0 32.1 32.1 31.2 31.8 31.3 32.2 30.8 31.1	44 44 46 45 44 44 45 43	
14	46.9 45.3 45.7 44.8 42.7 41.9 44.2 43.8 45.8 45.7 44.3 43.2 45.8 44.7 44.3 43.2 45.8 44.7 44.3 43.2 46.8 43.1 46.8 43.1 46.8 43.1 46.7 43.2 46.8 43.1 46.7 43.2 46.8 43.1	52 54 58 56 56 53 54 56 56 57 54 58 56 57 58 58 58 59 59 59 59 59 59 59 59 59 59 59 59 59	-22.0	14 16 18 20 22 24 26 28 30 32 34 36 38 40 42	44.8 41.3 38.6 37.1 43.3 41.9 43.8 42.8 36.0 34.8 36.2 35.0 42.0 40.9 38.9 37.2 37.2 34.3 36.2 35.0 45.9 43.1 29.2a 31.8 30.1 38.4 35.9 30.8 27.9	22 57 23 05 22 58 22 56 23 09 00 05 08 23 09 22 55 23 19 16 06		14 16 18 20 22 24 26 28 30 32	37.0 39.4 33.0 37.8 35.8 39.0 37.1 39.0 35.0 35.9 34.2 36.7 30.3 36.8 37.1 39.0 37.3 38.5 37.3 39.0 35.7 37.2 32.8 34.9	57 54 56 57 53 53 50 57 57 57 57 57		14 16 18 20 22 24 26 28 30 32	27.9 28.1 20.2 28.1 27.7 27.2 27.9 28.1 27.1 27.7 25.8	30.9 31.0 32.1 32.1 31.2 31.8 31.3 32.2 30.8 31.1	44 44 46 45 44 44 45 43	
18 20 22 24 26 28 30 32 34 43 36 44 44 44 44 46 8 55 0 55 2	42.7 41.9 44.2 43.8 45.8 45.7 44.6 45.8 44.7 46.8 44.7 46.8 43.1 46.8 43.1 46.4 43.2 46.4 43.2 46.4 43.2 46.4 43.2 46.5 43.2 46.6 43.2 46.7 43.2 46.8 43.1	53 54 54 56 55 54 56 53 53 53 54 54 54 54 54 54		18 20 22 24 26 28 30 32 34 36 38 40 42	43.3 41.9 43.8 42.8 36.0 34.8 36.2 35.0 42.0 40.9 38.9 37.2 37.2 34.3 36.2 35.0 45.9 43.1 29.20 31.8 30.1 38.4 35.9 30.8 27.9	22 58 22 56 23 09 00 05 08 23 09 22 55 23 19 16 06	-21.0	18 20 22 24 26 28 30 32	35.8 39.0 37.1 39.0 35.0 35.9 34.2 36.7 30.3 36.8 37.1 30.0 37.3 38.5 37.3 39.0 35.7 37.2 32.8 34.9	57 53 53 50 57 57 57 57 55 51	-27.2	18 20 22 24 26 28 30 32	20.2 28.1 27.7 27.2 27.9 28.1 27.1 27.7 25.8	32.1 32.1 31.2 31.8 31.3 32.2 30.8 31.1	46 45 44 44 44 45 43	
20	44.2 43.8 45.8 45.2 45.3 44.6 45.3 44.6 44.3 45.8 44.7 44.5 46.8 44.6 47.1 43.5 46.8 43.1 46.8 43.1 46.8 43.5 46.8 4	53 54 54 56 55 54 56 53 53 53 54 54 54 54 54 54		20 22 24 26 28 30 32 34 36 38 40 42	43.8 42.8 36.0 34.8 36.2 35.0 42.0 40.9 38.9 37.2 37.2 34.3 36.2 35.0 45.9 43.1 29.28 31.8 30.1 38.4 35.9 30.8 27.9	22 56 23 09 09 00 05 08 23 09 22 55 23 19 16 06	-21.0	22 24 26 28 30 32	37.1 39.0 35.0 35.9 34.2 36.7 30.3 36.8 37.1 30.0 37.3 38.5 37.3 39.0 35.7 37.2 32.8 34.9	57 53 53 50 57 57 57 57 55 51	-27.2	22 24 26 28 30 32	27.7 27.2 27.9 28.1 27.1 27.7 25.8	31.2 31.8 31.3 32.2 30.8 31.1	44 44 44 45 43	
24	45.7 44.8 45.3 44.6 44.3 43.2 45.7 44.6 47.3 45.8 46.8 44.6 47.1 43.5 46.8 43.1 46.4 43.2 46.4 43.2 46.4 43.2	54 54 55 55 54 53 52 53 53 53 54 54 54 54 54 54 54 54 54 54 55 55 56 57 57 57 57 57 57 57 57 57 57 57 57 57		24 26 28 30 32 34 36 38 40 42	36.2 35.0 42.0 40.9 38.9 37.2 37.2 34.3 36.2 35.0 45.9 43.1 29.2a 31.8 30.1 38.4 35.9 30.8 27.9	09 00 05 08 23 09 22 55 23 19 16 06	-21.0	24 26 28 30 32	34.2 36.7 30.3 36.8 37.1 30.0 37.3 38.5 37.3 39.0 35.7 37.2 32.8 34.9	53 50 57 57 57 57 55 55	-27.2	24 26 28 30 32	27.2 27.9 28.1 27.1 27.7 25.8	31.8 31.3 32.2 30.8 31.1	44 44 45 43	1
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14 3	40.4 36.1 34.3 31.0	13	-21.9	14	34.3 30.4	14	-20.8	14	32.8 34.1	50	-26.0	14	28.0	30.1	43	-2;
	35.4 32.1 37.2 33.9			16 18	36.2 33.7 36.2 33.2	10		16	32.1 34.1 31.7 32.9	50 48		18	27.I 26.I	30.8 29.2	43 41	
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24 !	47.7 44.2 54.9 52.2	40		24	56.9 52.1	22 39		24	32.2 33.2	49		24	27.8 26.1	31.8	44	
	53.8 52.6 46.4 45.6	52		26 28	29.0 26.7 47.7 44.5 51.2 47.8	23 2I 22 52		26 28	35.0 36.6 32.1 33.0	54 48		26 28	25.0	31.0 30.1	42 41	
30 4	45.3 43.9	54	-21.8	30 32	51.2 47.8 43.5 40.6	47 59	-20.8	30	29.I 30.3 3I.5 33.0	44 48	-25.4	30 32	23.8	27.9 26.0	38 36	-2
	43.9 42.2 46.1 44.9	53		34	50.2 47.8	48		34	28.5 30.8	44		34 36	24.0 25.2	26. I	35	
34 4 36 4 38 3 40 4	43.8 42.1 39.8 37.6	22 57		36 38	48.2 45.8 48.2 46.1	51		36 38	29.0 31.9 31.4 34.8	50		38	25.7	28.4	39 40	)
40	40.8 39.7	23 OI		40 42	48.7 47.0 49.9 49.0	50		40 42	31.0 34.6 35.4 38.6	49 56		40 42	27.2 25.8	20.0 28.0	42	
	47.1 46.0 47.8 46.2	22 51	-21.6	44	52.0 50.2	44 48	-20.8	44 46	32.0 35.2	50		44 46	25.1 25.8	27.8	39	) -2
16 4	40.0 38.5 34.7 33.2	23 03		46 48	49.8 47.9 51.4 49.4	46		48	28.9 31.0 31.2 36.2	50		48	26.9	29.8	42	3
50 4	41.9 39.7	23 00		50	49.4 47.1 50.2 47.3	49 48		50 52	25.8 28.3 28.4 3I.0	40		50 52	28.0 28.0		44	
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56 4	48.0 46.7 51.9 50.0	50		54 56 58	48.8 45.7 49.1 47.0 50.2 47.8	50 49 48		54 56 58	35.8 36.2 32.1 32.9			56 58	26.0 26.0 26.0	31.2		

Correction to local mean time is — 24.5s. Torsion head at oh oom read 14° and at 8h 20m read the same. Observer—R. R. T. Correction to local mean time is — 59.5s. Torsion head at 7h 48m read 14° and at 12h 21m read 15°. Observer—J. V.

Tues	day, March 1	5, 1904			Magnet	scale inv	erted	Wed	nesday, Marc	h 16, 190	04		Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Tem C.
h m 2 00 02 04 06 08	d d 41.1 38.0 40.7 39.7 40.0 38.1 40.7 35.8 41.0 35.5	22 38 37 39 40 40	-26.0	h m 14 00 02 04 06 08	d d 44.0 40.4 42.4 42.0 42.0 40.3 42.9 39.9 42.6 39.9	22 34 34 36 35 36	-23.8	h m 0 00* 02 04 06 08	d d 56.1 57.9 55.9 57.7 56.0 58.0 56.2 58.4 56.1 57.7	22 43 43 43 44 44	-27.6	h m 2 00 02 04 06 08	d d 57.2 57.8 57.9 58.2 57.7 58.1 57.2 57.9 57.2 58.1	22 44 44 44 44 44	
10 12 14 16 18 20 22	40.1 37.0 40.0 37.1 40.8 37.0 39.8 38.0 42.8 40.0 42.0 39.8 40.9 38.2 39.9 37.2	40 40 39 39 35 36 38 40	-26.0	10 12 14 16 18 20 22 24	43.0 40.9 42.9 40.6 41.9 40.6 41.2 38.9 39.0 37.2 38.8 36.8 38.0 37.0 39.0 38.1	34 35 36 37 40 41 41	-23.3	10 12 14 16 18 20 22 24	56.2 58.5 55.1 58.3 55.2 58.3 54.9 58.1 55.1 58.1 55.6 58.0 55.9 57.9 56.0 57.7	44 42 42 42 42 43 43 43	-27.3	10 12 14 16 18 20 22 24	57.8 58.4 57.1 58.0 57.1 58.3 56.3 58.8 56.6 58.8 56.6 58.8 56.8 58.7 56.8 58.2	45 44 44 44 44 44 44	-26.0
26 28 30 32 34 36 38	39.8 37.2 39.1 37.5 36.8 36.4 36.9 35.6 36.9 35.9 37.4 36.4	40 40 43 43 43 43	-25.9	26 28 30 32 34 36 38	40.2 40.0 40.1 39.4 40.2 38.2 41.2 39.0 43.2 40.2 45.3 41.9	37 38 39 37 35 35	-23.0	26 28 30 32 34 36 38	56.6 57.8 57.2 58.1 57.6 59.1 58.8 60.7 60.2 62.1 60.8 62.5 59.2 61.8	43 44 45 47 50 50 48	-27.2	26 28 30 32 34 36 38	56.2 57.8 56.2 57.8 55.7 57.2 56.1 56.9 56.7 57.3 57.2 57.7	43 43 42 42 43 44	-25.9
40 42 44 46 48 50 52	37.2 37.1 38.0 37.2 39.8 38.0 37.8 36.9 38.1 36.9 38.3 36.9 37.0 36.5	42 41 39 42 41 41 42 42	-25.6	40 42 44 46 48 50 52	44.9 42.2 45.4 41.3 45.0 40.0 45.0 40.1 45.0 41.0 44.0 39.2 43.0 37.8 43.0 38.0	32 32 33 33 33 35 37	-23.0	40 42 44 46 48 50 52	58.7 61.0 58.2 60.8 58.7 61.0 58.8 61.0 58.1 60.1 58.3 60.4 58.3 60.3	48 47 47 48 46 47 47	-27.2	40 42 44 46 48 50 52	57.7 57.8 57.6 57.8 57.1 57.7 56.9 57.6 57.2 57.4 57.4 57.8 57.1 57.6 56.7 57.1	44 44 43 43 44 44 44	-25.8
54 56 58 58 02 02 04 06	38.1 36.9 38.0 37.8 38.0 36.9 37.9 36.4 38.0 35.0 38.0 35.2 38.3 35.8	41 41 42 42 43 43 43	-25.2	54 56 58 15 00 02 04 06	43.7 38.8 42.2 37.6 41.1 37.8 41.9 37.0 42.2 38.2 42.0 38.0 41.8 37.0	37 36 36 38 38 38 37 37 37	-22.8	54 56 58 1 00 02 04 06	57.9 59.9 57.9 59.9 58.1 60.2 58.2 60.2 59.1 60.8 59.5 61.1 59.2 60.7	46 46 46 46 48 48 48	-27.0	54 56 58 3 00 02 04 06	56.9 57.5 57.0 57.4 58.1 58.8 50.0 59.3 58.6 59.0 59.0 59.0 59.9 60.1	43 43 45 46 46 46	-25.4
08 10 12 14 16 18	38.9 36.2 39.0 36.5 38.8 36.3 39.0 36.8 39.5 36.9 40.5 37.5 41.0 38.9	41 41 41 40 39 38	-25.0	08 10 12 14 16 18 20	41.1 37.0 41.0 37.3 40.2 37.7 40.9 37.1 42.1 36.9 41.8 36.0 42.0 37.3	39 39 39 39 38 39	-22.7	08 10 12 14 16 18 20	50.0 60.3 58.7 59.8 57.8 50.2 57.2 58.3 56.8 58.1 57.0 58.0 56.8 57.7	47 46 45 44 44 44 43	-26.9	08 10 12 14 16 18 20	60.0 60.2 59.7 60.3 59.1 59.9 59.1 60.0 59.9 60.3 60.3 60.9 60.5 61.3	48 48 48 47 47 48 49 49	-25.2
22 24 26 28 30 32 34 36	42.0 30.0 41.9 38.8 41.0 37.7 41.0 37.8 42.2 39.4 43.8 40.2 44.9 40.0	36 37 38 38 36 34 34	-24.7	22 24 26 28 30 32 34 36	42.2 39.1 42.5 39.2 42.0 39.9 42.0 40.0 41.8 39.6 41.0 40.2 41.3 39.8 41.3 39.8	36 36 36 36 36 36 36 37	-22.6	22 24 26 28 30 32 34 36	56.3 57.2 56.9 57.5 56.9 57.1 56.7 56.8 56.2 56.8 56.2 56.8 56.3 57.1 56.2 57.0	42 43 43 42 42 42 42	-26.7	22 24 26 28.7 30 32 34	58.8 50.0 58.0 58.0 57.7 58.0	50 50 48 47 47 44 44	-25.0
30 38 40.4 42 44 46 48 50 52 54 56 58	43.1 41.1 42.8 40.1 43.1 39.7 45.0 40.9 45.1 41.5 44.2 40.1 43.1 39.0 42.2 39.2 42.1 39.9 43.2 39.7 43.8 40.8	34 35 35 33 32 34 36 36 36 36 35 34	-24.I	30 38 40 42 44 46 48 50 52 54 56	41.3 39.0 41.3 39.0 40.9 38.6 40.9 37.8 40.4 38.1 41.3 36.3 40.9 35.8 40.9 35.8 41.0 34.8 41.0 34.2 42.0 35.9	37 37 38 38 39 40 40 41 41 39 38	-22.5	38 40 42 44 46 48 50 52 54 56	56.2 57.0 56.1 57.0 56.1 56.9 56.2 57.2 56.2 57.2 56.2 57.2 56.8 57.2 57.8 58.2 57.8 58.3	42 42 42 42 42 42 42 43 44 44	-26.4	34 36 38 40 44 46 48 50 52 54 58	57.4 58.0 57.8 58.3 57.3 58.0 57.2 57.0 57.0 57.8 57.1 58.7 57.8 58.7 57.3 58.2 57.6 58.1 57.9 58.3 58.2 58.3	44 44 44 44 44 45 45 44 44 45	-25.0

Correction to local mean time is — 9.5s.

Torsion head at 12h oom read 14° and at 16h 35m read 13°

Observer—J. V.

	nesday, Marc		<del>-</del> -	i	1	wragi	net scale	erect	Wed	nesday, Marc	h 16, 19	04			Magı	net scale	erect
thr'r ime	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	cale lings Right	East decli- nation	Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	cale lings Right	East decli- nation	Tem C.
m 00	d d 58.6 58.8	0 ,	0	h m	d	d	0 /	0	h m	d d	0 ,	0	h m	d	ď	• ,	,
02	57.7 58.0	22 46 44	-25.0	6 00	62.4 61.3	61.9	22 52 50	-24.0	8 00	62.2 63.1 60.2 60.2	22 52 48	-23.9	10 00 02	60.2	60.3 60.6	22 48 48	-23.5
<b>0</b> 4 <b>0</b> 6	57.2 57.5 58.1 58.3	44 45		04 06	62.1 62.6		51 52		04 06	61.2 61.8 61.6 62.1	50 51		04	59.8 58.8	60.0	48	
80 01	58.2 58.8 59.0 59.2	45 46		08	63.0 61.0	63.6	53		<b>o</b> 8	61.3 61.9	50		08	59.3	59.3 59.6	46 47	
I2	59.2 59.5	47		12	60.9	60.9	50 49		I0 I2	61.0 61.0	49		I0 I2	59.4 59.3	59.8 59.5	47 47	
14 16	58.8 59.7	47 46	-25.0	14 16	62.0	62.2	51 52	-24.0	14 16	61.8 62.2	51 49		14 16	58.7 58.0	59.3 58.3	46	-23.5
18 20	58.3 59.1 57.9 59.0	46 45		18 20	60.9	61.0	49		18	Magnet	49		18	57.8	58.3	45 44	
22	58.6 59.5	46 48	`	22	63.1	63.4	50 53		20 22	centered			20.2 22	57.6 57.7	58.3 58.4	44 45	
24 <b>2</b> 6	59.7 60.6 59.9 60.8	48		24 26	62.2	62.7	51 51		24 26	61.5 61.8 60.1 60.3	50 48		24 26	58.5 59.0	59·3 60.0	46	
28.3 30	59.2 59.9 58.8 59.7	47 46	-24.8	28	61.9	62.6	51		28	61.0 61.5	50	-23.5	28	58.5	59.3	47 46	
32	59.1 59.9	47 48	24.0	30 32	61.0	61.7 61.3	50 50	-24.0	30 32	61.9 62.3 60.2 60.8	51 48		30 32	58.3 58.2	59.3 59.0	.46 45	-23.4
34 36 38	59.8 60.6 59.1 59.9	47		34 36	62.9 61.7	63.1 62.0	52 51		34 36	58.8 60.1 59.7 61.3	47 48		34 36	58.3 58.3	59.0 58.8	45	
38 40	58.9 59.1 59.2 59.8	46		38	61.2	6r.7	50		38	60.6 62.1	50		38	58.3 57.8	58.5	45 45	
42	60.1 60.4	47 48 48		40 42	61.5	62.0 62.1	50 51		40 42	60.0 61.6 60.4 61.7	49 49	1	40 42	57.8 57.9	57.8 57.9	44 44	
44 46	60.2 60.9	48	-24.8	44 46	61.9	62.1 62.5	51 51	-24.0	44 46	61.3 62.1 60.6 61.4	50	22.0	44 46.2	57.5	57.6	44	-23.3
48 50	59.6 60.4	48	ſi	48	62.0	62.2	51		48	61.0 61.7	49 50	-22.9	48	57·5 57·3	57·9 57·9	44 44	
52.	59.8 60.8	47 48	il	50 52	61.3	61.8 61.4	50 50		50 52	60.5 61.7 59.9 61.0	50 48		50 52	57.0 56.7	57·3 57·1	43 43	
54 56	60.3 61.8	49 51		54 56	61.1	61.8	50 48		54 56 58	61.8 62.6 62.5 63.3	51	1	54 56	56.8	57.0	43	
58 00	59.3 60.2 58.8 59.8	47	-24.8	58	62.0	62.7	51		58	60.5 61.3	52 49		58	56.8 57·3	57.0 57.9	43 44	
02	60.I 61.5	47 49 48	-24.0	7 00 02	63.3	64.0 61.3	53 50	-24.0	9 00 02	58.3 59.3 59.4 60.2	46 47	-23.0	II 00 02	57·4 56.3	57.8 56.9	44 42	-23.2
04	59.7 60.6 58.8 59.7	48 46		04 06	62.0	62.0	49 51		<b>0</b> 4 <b>o</b> 5	59.3 59.7 58.6 59.6	47 46		04 06	56.0	56.3	42	
80	58.3 59.3	46		о8	60.9	61.4	50	]	o8	58.7 60.5	47		08	56.3 56.0	56.7 56.6	42 42	
IO 12	57.0 57.8 57.6 58.5	44 44	[]	10 12	59.0 62.5	63.3	47 52		10 12	60.6 61.6 60.1 61.6	50 48		IO I2	56.5 56.6	56.9 57.0	42 43	!
14	62.8 63.2 63.3 63.8	52 53	-24.4	14 16	61.6 63.1	62.3	51 53	-24.0	14 16	61.6 62.3 60.3 61.0	51	-23.2	14	57.0	57-3	43	-23.1
8	61.2 61.4	50		18	60.1	61.5	49 48		18	59.8 60.8	49 48		18	57·3 56·5	57·4 57·0	44 42	
2.3	60.9 61.8	50 50		20 22	60.0 62.7	60.8	48 53		20 22	60.3 60.6	49 48		20 22	56.1 55.1	56.5 55.5	42 40	
6	60.0 61.0 63.6 64.0	48 55		24 26	60.2	61.4	49		24	60.5 61.1	49		24	54.7	54.7	39	
8	63.2 63.4	53		28	60.3	62.1	52 50		26 28	60.3 61.0 59.1 59.6 59.6 60.0	49 47		26 28	55.0 55.1	55·3 55·3	40 40	
	62.1 62.1 61.4 62.1	51 50	24.3	30 32	62.7 62.8 58.6	64.8	54 53	-24.0	30 32	59.6 60.0 60.3 60.6	47	-23.3	30 32	55.6	55.8	41	-23.0
4	62.1 62.7 62.1 62.5	51		34	58.6	60.8	47		34	60.3 60.6	48	23.3	34	55.1 54.3 53.8	55·3 54·7	<b>40</b>   39	
8	61.6 62.0	51 51		36 38	60.6 60.0	62.1	50 49		36 38	60.5 61.1 60.6 61.5	49 49		36 38	53.8 54.0	54.2	38 39	
0	61.8 62.2 61.2 61.8	51 50		40 42	59.9 61.1	62.1	49 51		40 42	60.6 61.5 60.7 61.8 60.6 61.5	50		40	54.6	55.2	40	
4	60.8 61.7	50		44	60.0	61.8	49  -	-24.0	44 46	59.8 60.6	49 48 -	23.5	42 44	54.6 54.6	55.0 55.2	40 40	-23.0
4 8	61.3 62.0 60.7 61.2	50 - 49	24.0	46 48	60.7 60.9	62.8	50 51		46 48	59.I 60.I 60.3 60.6	47 48		46 48	54.8	55.3	40	_
o   (	61.1 61.8	50		50	59.8	61.8	49		50	60.4 60.8	49		50	54.I		40 39 38	
1	61.7 62.2	51 51		52 54 56	61.2 60.9	62.2	51 50		52 54	61.2 61.6 61.7 62.0	50 51		52 54	54.0 53.1	54.2	38	
	60.9 61.9	50 50		56 58	59.8 60.9	бо.8	48 50		54 56 58	61.6 62.0 60.4 60.8	51 49		54 56 58	53.6 53.3	53.7	37 38 37	

Observer-R. R. T.

Observers—R. R. T. and W. J. P., who alternated from 8h 14m to 8h 24m.

Wedr	esday, Marc	1 16, 190	94			Magn	et scale	erect	Wedı	iesday,	Marcl	1 16, 190	94			Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Clir'r time	Sca read Left	ings	East decli- nation	Temp.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	Scaread	ings	East decli- nation	Temp C.
h m	d d	· ,	0	h m	d	d	0 /	0	h m	d	d	· ,	υ	h m	d	d	0 /	0
2 00.3 02	58.6 58.7 53.8 54.0	22 45 38	-23.0	14 00 02	46.6	47.0 48.0	22 27 27	-22.0	16 00	46.2 47.5	48.7 49.0	22 28 29	-21.9	18 00 02	51.8 51.0	54.0 55.4	22 <b>3</b> 6 37	-21.4
<b>0</b> 4 <b>0</b> 6	54.3 55.1 54.8 55.5	39 40		04 06	49.1 49.3	49·4 49·5	31 31		04 06	45.9 45.1	47.8 47.3	27 26		04 06	48.3 47.1	54·5 52·5	34 32	
08	53.9 55.1 53.0 54.6	39 38		08	49.3 48.8 48.3	49.2 48.6	30 29		08	45.2 43.5	46.7 44.9	26 23		08	47.3 47.6	53.0 54.7	32 34	
12	53.8 55.3	39	0	12	48.6	49.6	31	00 T	12	41.2	43.7	20 22	-21.2	12 14	47.0 47.2	55.2 55.8	34 34	-21.6
14 16	54.6 55.0 52.0 53.0	<b>40</b> 36	-22.8	14 16	49.0	49.6 48.3	3I 29	-22. I	14 16	41.9	45·3 46·4	23	21.2	16	47.0	57.2	35	21.0
18 20	51.0 51.6 49.8 50.2	34 32		18 20	47·3 48·3	48.2 49.3	28 30		18 20	42.7	46.8 46.0	24 22		18 20	49.0	58.3 57.6	35 38 38 38 36	
22	51.0 51.1	34 36		22 24	48.0 47.3	49.0 48.2	30 28		22 24	40.9 40.1	45.3 45.0	2I 20		22 24	49.6	58.0 57.0	38 36	
24 26	52.3 52.9 58.0 59.8	46		26	47.0	47.7	28 26		26 28	4I.0 42.8	45.6	22 25		26 28	47.9 49.5	56.1 56.5	35 37	
28 30	57.6a 53.0a	44 37	-22.6	28 30	46.1 46.1	46.9 46.6	26	-22.0	30	43.0	47.9 48.0	25	-21.3	30	49.0	55.0	35	-21.8
32 34	55.6a 56.9b	41		32 34	46.5	46.7 47.8	27 28		32 34	39.9	44.2 45.0	19 21		32 34 36	46.3	53.0 51.0	31 29	
36 38	54.0b 50.6 51.3	43 38 33		34 36 38	48.0	48.0 46.6	29 27		34 36 38	42.I 42.3	45.0 44.2	22 2I		36 38	46.5	52.0 52.9	3I 32	
40	50.5 51.0	33		40	48.3	48.6	29		40	40.0	42.9 41.8	18		40 42	45.8 46.0	49.1 49.0	32 28 28	
42 44	52.6 52.8 51.1 51.3	36 34	-22.6	42 44 46	50.0 47.0	50.0 47.0	32 27	-22.0	42 44	38.0	40.0	15	-21.4	44.2	46.8	48.2	28	-21.8
46 48	50.0 50.3	32 30		46 48	46.0	46.4 47.5	26 28		46 48	37.8 41.8	40.0	14 20		46 48	47.0 47.9	48.2 49.0	28 29	
50	49.8 50.0	32		50 52	45.8 45.1	46.0 45.3	25 24		50 52	43.8	44.5 45.1	23 24		50 52	49.3 47.0	50.2 49.0	32	
52 54	51.0 51.0 49.0 49.4	34 31		54 56	45.8	46.3	26		54 56	44.2	45.2	24		54	46.9	47.7	29 28 28	
56 58	48.3 48.3 48.5 48.7	29 30		58	45.0	45.6 45.0	25 23		58	42.0 4I.0	43.2 42.0	20 19		56 58	47.2	47.8 47.8	28	
3 00	48.8 49.0 47.0 47.3	30 28	-22.4	15 00 02	44.0	45.0 44.9	23 23	-22.0	17 00	42.5	42.8 44.8	20 22	-21.4	19 00 02	47.8 49.0	48.5 51.5	29 32	-21.9
04	47.1 48.0	28		04 06	43.2	44.5	22		04 06	42.0	44.0	2I 22		04 06	49.0 47.9	51.0 51.2	32 31	
06 08	50.0 51.3 51.0 52.0	33 34		08	43.0	44.4	22		o8	42.3	44·5 43·9	21		08	47.5	51.3	31	
10 12	49.3 50.1 48.3 49.1	32		I0 I2	43.3 43.6	44.9	22 23		10 12	39·9 40·0	42.2 43.0	18		I0 I2	48.0 48.3	52.0 51.0	32 31	
14 16	48.0 48.6 47.7 48.3			14	43.6	45.0	23 23	-22.0	14 16	42.6	46.2 47.8	23 26	-21.5	14 16	49.0	54.2 54.0	34 34	
18	48.6 49.4	30		18	44.9	45.3	24		18	43.0	45.9	22 28		18	44.5	53·5 53.8	30	
20 22	49.7 50.3 50.0 50.6			20 22	44.9	44.5	24 23		20 22	45.8 42.0	52.4	28		20 22	44.2	52.7	29	
24 26	40.8 50.6	33 32		24 26	44.6		24 22		24 26	45.0 45.8		28 29		24 26	44.0			1
28	49.8 50.6 48.3 48.9 46.8 47.6 45.8 46.1	30 28	-22.3	28 30	42.5 43.6	43.1	2I 22	-22.0	28 30	43.8	48.2	26	-21.2	28 30	43.0 43.8	52.0	29 28 28	-21.9
30 32	45.8 46.1	26		32	43.7	44.3	22	122.0	32	47.0	50.0	30	21.2	32	43.2	51.7	28 28 28	
34 36	47.5 48.1 48.8 49.0	30		34 36 38	45.1 45.9	46.6	26		34 36	48.0 49.1	52.3			34 36	43.3 43.8	51.8 50.9	28	5
38	49.7 50.0 50.3 50.6	32		38	46.5 46.3	46.9 47.1	27 27		38 40	50.6				38 40	44.9	51.1 51.2		
42	51.9 52.1	35	20. 2	42	46.3 46.6 48.8	47.6	28	-22.0	42	49.4	52.9	34		42	45.8	51.9	30	)
34 36 38 40 42 45 46 48	49.9 50.6 50.2 50.6	33		44 46 48	49.6	50.0	32		44 46	49.2 48.9	52.0		-21.2	44 46 48	45.I 44.5	49.9	28	
48 50	51.9 52.5 52.2 53.0	35		U 50	47.8 47.8	48.6 48.6	29 29		48 50	51.0	52.3 54.0			50	46.3 46.9	51.0 51.1	30	•
50 52	54.4 55.0	39		52	47.0	48.6	29		52	52.0 51.3	52.9	36		52	46.9 46.3	52.1	31	:
54 56 58	54.5 55.0 50.9 52.0 47.0 47.9	34		54 56 58	46.3 46.8 45.2	50.0 47.6	29		54 56 58	51.7 51.7	53.1	36		54 56 58	45.5 45.8	52.0 52.0	30	•

Observers—W. J. P. and J. V., who alternated from 15h 52m to Observer—J. V. 16h 02m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedr	esday,	, Marc	h 16, 190	04			Magr	et scale	erect	Thur	sday, I	March	17, 1904			Ma	ignet s	cale inv	erted
Chr'r time	read	ale lings Right	, East . decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sc read Left	ale lings Right	East decli- nation	Гетр. С.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
h m	d	d	0 ,	0	h m	d	d	0 ,	•	h m	d	d	0 ,	0	h m	d	d	· ,	0
0 00 ±	46.2 44.8	52.I 53.0	22 3I 30	-22.0	22 00 02	23.0 23.2	28.1 27.0	22 27 26	-22.4	16 00 02	50.8	49.8 50.0	22 4 <b>0</b> 40	-26.9	18 00	52.0 52.1	50.6 50.6	22 39 39	-24.2
04	46.1	53.2	31		04	23.2	29.2	28		04	51.0	50.2	40		04	51.0	50.8	39	
<b>ი</b> ნ <b>ი</b> 8	45·3 46.0	52.3 53.0	30		06 08	21.9	24.8 24.2	23 21		06 <b>0</b> 8	51.3	50.3 50.2	40 40		06 08	51.8 51.8	50.9 51.1	39 39	
10	49.0	55.0	35	ł	10	22.0	25.9	24		10	53.1	48.7	40		10	51.2	51.2	39	
12 14	55.1 57.0	63.1	44 48	-22.0	I2 I4	26.0 23.1	31.2 23.8	32 23	-22.5	I2 I4	53·3 54.1	49.2 50.2	39 38	-26.3	12 14	51.8	51.2 51.7	39 38 38 38 38 38 38 38 38 38 38 38	-24.0
16	54.5	58.8	42	22.0	16	27.0	31.0	32	22.3	16	53.2	50.4	38	20.5	16	51.9	51.6	38	
18 20	52.6 56.8	59.0	41		18 20	23.I 25.0	26.0	25	1	18 20	52.3 52.7	50.2 50.7	39 38 36		18 20	52.2 52.1	51.7 51.4	38	
22	49.0	57·5 51·5	43 32		20	27.9	29.3 31.0	29 33		22	53.8	52.0	36		22	52.I	51.4	38	
24	49.2	51.5	32	ĺ	24 26	27.2	31.1	32		24 26	52.8	51.2	38		24 26	52.2	51.5	38	
26 28	49.2 48.5	45·4 54·3	28 34		20 28	27.0 25.0	32.0	33 30		28	52.9 52.8	52.I 5I.9	37 37		28	52.3 52.2	51.7 51.3	38	
30	56.2	60.6	22 45	-22.I	30	25.8	31.0	31	-22.6	30	52.2	51.8	37 38	-25.9	30	52.0	51.3	38	-24.0
32 34*	62.1 52.0	77.8 63.5	23 03 17		32	25.I 27.0	32.3 34.0	32 34		32 34	52.3 52.2	51.3 51.1	38 38		32 34	52.I 52.I	51.6 51.6	38	
34 <b>*</b> 36	57.I	60.1	19		34 36 38	30.0	36.8	39 36		34 36	51.8	51.0	39		34 36	51.9	51.2	39	
38 40	48.0 36.0	56.9 48.8	23 09 22 53		38 40	28.2	35.0 31.7	36		38 40	51.3	50.2 50.0	40 40		38 40	51.7 51.1	50.7 50.7	39 40	
42	27.5	40.9	40		42	29.9	38.8	40		42	51.3	50.2	40		42	50.9	50.2	40	
44	24.2	36.1	34	-22. I	44 46.5	28.0	36.7 36.9	37	-22.7	44 46	51.4 52.3	50.4 50.8	40	-25.4	44 46	50.9 51.2	50.4 51.0	40 39	-23.9
46 48	2I.3 17.1	34.9 21.8	31		48.3	32.9 32.0	36.0	4 <sup>1</sup>		48	52.9	51.2	39 38		48	51.2	51.2	39	
50	19.0	26.2	22		50.5	33.0	36.7	41		50	53.6	52.0	36		50	51.1	50.8 50.8	40	
52	17.5 23.0	29.0 31.2	23 29		52 54	31.8	35.0 38.0	39 47		52 54	54.2 54.8	52.0 52.5	36 35		52.3 54	51.1 51.0	50.8	40 40	
54 56	19.0	31.0	26		54 56	39·4 37.8	38.8	47		54 56	54.8	52.7	35		56	51.2	50.8	39 38	
58	19.0	28.0 24.9	24 19	-22.I	58 23 00	33.0 34.2	35.2 36.0	40 42	-22.8	58 17 00	54·7 54·3	52.7 52.6	35 36	-25.0	58 19 00	52.2 53.1	51.5 52.2	38 37	-23.9
00	16.5	26.0	23		02	32.8	34.3	39	22.0	02	53.9	52.8	36	_5	02	53.0	52.8	36	_5.9
04	18.0	25.I	20	İ	04 06	31.3	33.2	37		04 06	53.9 53.8	53.1	35 36		04 06	53.I 52.8	52.2 52.0	37	
o6 o8	18.2	25.0 26.0	20 2I		08	32.9 32.6	35.0 35.2	40 40		08	53.8	53.0 53.1	36		08	52.2	51.9	37 38 38 38	
IO	20.2	26.2	23 28		10	30.0	32.7	36 38		10	53.7	53.1	36 36		10	52.0	51.2	38	
12 14	23.9 24.0	28.5 32.0	28 31	-22.2	I2 I4	31.8	33.0 31.7	36	-22.8	I2 I4	53·7 53·4	53.I 53.0	36	-24.9	12 14	52.1 51.8	51.3 50.9	39	-23.9
16	25.0	32.0	31		16	29.9	31.7	35		16	53.5	52.8	36		16	51.9	50.8	39	
18 :	14.5 12.8	26.3	19		18 20	29.3 30.0	31.3 32.0	34 35		18 20	53·3 53·0	52.8 52.7	36 36		18 20	51.9 51.2	50.8 50.3	39 40	
20 22	17.2	23.2 26.5	21		22	33.3	35.0	40		22	52.0	52.7	36		22	51.6	50.0	40	
24	16.5	27.9	22 26		24 26	35.2	36.1 33.0	42 37		24 26	52.8 52.3	51.7 51.5	38 38		24 26	50.9	49.9 49.6	40 41	
26 28	24.2 17.6	26.0 27.2	20		28	32.0	34.3	39		28	52.2	51.4	38		26 28	50.3	49.2	41	
30	20.9	32.0	28	-22.2	30	33.1	36.0	41	-22.9	30	52.1	51.0	39 38	-24.8	30	50.3	49.2	41	
32	23.0 22.9	31.9 31.2	30 29		32 34	33.2 30.9	36.5 34.1	41 38		32 34	52.2 51.9	51.2 51.3	38		32 34	50.4	49.6 49.4	4I 4I	
34 36	25.0	31,3	31 28		34 36 38	31.0	34.2	38		36	52.0	51.3	38		36	50.8	49.5	41	
36 38	24.0	29.2			38 40	30.8	34.I 34.2	38 38		38 40		51.6 51.7	38 38		38 40	50.5	49·3 50.0	41 40	
40 42	22.3 23.5	25.7 26.9	24 26		42	31.0	34.6	38		42	52.2	51.9	38		42	50.8	50.0	40	
44	19.8	22.9	20	-22.3	44 46 48	32.2 32.8	35.0	39 39	-22.9	44 46	52.0	51.8 51.6	38 38 38	-24.5	44 46	50.8	49·3 49·7	41 40	
44 46 48 50	20.6 21.8	26.0 24.I	23 23		48	32.0 32.1	34.I 33.5	38		48		51.3	38		48	50.8	49.7	41	
50	23.0	26.7	26		50	32.2	34.0	39		50		51.2	38		50	50.9	49.4	41	
52	17.2	23.2	18 28		52 54	32.I 31.2	34.0 36.0	38 39		52 54	52.1	51.1 51.2	38 38		52 54	50.5	49·3 49·3	4I 4I	
52 54 56 58	16.5	22.2	17		54 56 <b>58</b>	32.0	<b>3</b> 6.9	41		54 56	52.1	50.8	39		54 56 58	50.9	49.3	41	
58	22.I	28.9	27	1	58 24 00	30.6	35.0 35.0	38 38		58	52.2	50.8	39		20 00		49.9 49.8	40 40	

Correction to local mean time is + 3.5s. 90° torsion = 27.'47. Torsion head at oh oom read 11° and at 24h 25m read 23°. Observer—J. V.

Correction to local mean time is — 18s. 90° torsion = 26.'53. Torsion head at 15h 15m read 13° and at 20h 20m read 15°. Observer—R. R. T.

## SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

#### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

			ĺ								1	-						
Chr'r time	Scale readings Left Right	East decli- nation,	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East . decli- nation.	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp C.
h m	d d	0 /	0	h m	d	ď	0 ,	0	h m	d	d	0 ,	0	h m	d	ď	0 ,	0
0 00	53.8 55.0 52.0 55.2	22 41	-23.3	22 00 02	42.0 42.1	48.2 48.2	22 26 26	-21.9	0 00*	54.2 53.9	47.9 48.1	23 40 40	-18.2	2 00 02	47.9 47.4	47.7 47.1	23 45	-16.4
04	52.0 55.2 51.7 56.0	39 40	ĺ	04	41.2	48.4	26		04	53.9	48.3	40		04	47.2	47.1	46 46	
o6 o8	50.2 56.7 49.9 56.2	39 38		06 08	42.0 4I.I	48.8 48.2	26 25		06 08	52.8 52.3	47.8 47.3	41 42		06 08	47.4 47.1	47.2	46 46	
10	50.3 56.0	39		10	40.8	47.6	25		10	52.6	47.9	41		10	47.1	46.3	47	
12 14	51.2 55.4 52.0 55.2		-23.4	I2 I4	4I.0 4I.I	48.0 46.8	25 24	-21.5	12 14	52.9 52.7	48.6 48.3	40 41	-18.0	12 14	47.3	46.9 46.2	46	-16.3
16	53.0 54.1	39	-0.4	16	43.0	45.7	25		16	52.2	48.3	41		16	46.3	46.1	48	10.3
18 20	52.9 54.9 52.7 54.1			18 20	44.0	46.1 46.2	26 27		18 20	52.2 52.3	48.3 49.2	41 40		18 20	46.9 46.8	46.6 46.7	47 47	
22	52.3 54.2	39		22	44.8	46.0	26		22	52.4	49.2 48.9	40		22	47.2	47.0	46 46	
<b>2</b> 4 26	52.0 53.1 51.1 52.3	36		24 26	45.I 46.0	46.7 46.1	27 28		24 26	51.9	48.7	4I 42		24 26	47.2 47.8	47.0 47.2	46	
28 30	50.3 52.1 49.3 51.3	36 34	-23.7	28 30	45.2 46.7	48.8 51.0	29 32	-21.3	28 30	51.5 51.9	48.8 49.2	41 41	-17.9	28 30	48.3	47.9 48.1	45 44	-16.1
32	49.8 50.4	34	23.7	32	46.1	51.0	31	21.3	32	52.6	50.2	40	17.9	32	49.2	48.4	44	10.1
34 36 38	48.0 49.7   47.1 49.5	32 31		34 36	45.2 45.2	50.2 49.8	30 30		34 36	52.9 53.2	50.8	39 <b>3</b> 8		34 · 36	49.1 50.0	48.7 49.5	43 42	
38	46.9 50.0	31		38	45.I	49.0	29		38	53.0	51.1	38		38	50.1	49.8	42	
40 42	46.4 50.0 46.5 50.0	3I 3I		40 42	46.0 42.1	48.0 43.2	29 22		40 42	52.3 52.0	50.8 50.8	39 40		40 42	50.I	49.7 49.7	42 42	
44 46	46.5 50.3	31	-23.7	44	40.0	40.2	18	-21.1	44	52.0	50.8	40	-17.7	44	49.8	49.4	42	-16.
48 48	46.7 51.3 46.2 51.0	32 32		46 48	40.8	42.2 44.5	20 23		46 48	52.7	51.1 50.9	39 39		46 48	49.8	49.2 49.2	42 42	
50 52	46.2 51.0 46.1 51.0	32		50 52	39.0	40.I 47.2	17 26		50	52.7	51.7	39 38		50 52	49.7	49.1 48.8	43	
54 56	47.1 52.0	31		54	43.5 43.2	47-4	26		52 54	52.1 51.4	51.3 50.7	39 40		54	49.0 49.0	48.8	43 43	
56 58	48.1 50.9 49.1 51.0	33 34		56 58	41.6	45.0 47.1	23 26		56 58	51.1 52.0	50.6 51.2	40		56 58	49.9 50.3	49.5 50.1	42 41	
00	49.5 50.3	34	-23.2	23 00	43.I	48.2	27	-20.9	1 00	52.7	52.0	39 38	-17.2	3 00	50.1	49.9	42	-16.
02 04	48.3 51.8 48.2 50.8	34		02 04	43.I 43.0	49.0 49.2	28 28		02 <b>0</b> 4	53.2 53.3	52.9 52.9	37 37		02 04	49.4 49.8	49.2 49.2	43 42	
06	49.0 50.5	33		06	42.0	49.0	27		<b>o</b> 6	53.9	53.3	36		06	49.8	49.2	42	
08 10	49.7 50.6 49.0 51.0	34 34		08	39.1 38.7	46.2 46.2	22 22		08 10	54. I 53.3	53.7 53.1	36 37		08 10	48.8 48.2	48.4 48.0	44 45	
I2 I4	49.4 50.2 49.7 50.3	34 34	23.0	I2 I4	38.5 38.7	44.2 45.0	20 21	-20.6	12	53.0	52.7	37	-16.9	12	48.3	48.1	44	-16.
16	49.7 50.3 49.5 50.8		23.0	16	41.0	46.5	24	20.0	14 16	52.2 51.4	52.1 51.0	38 40	-10.9	14 16	48.9 49.0	48.6 48.6	44 44	_10.1
18 20.3	49.9 50.3 49.1 49.9	34		18	48.9	51.0 52.0	34 32		18 20	50.9	50.4 50.2	41 41		18 20	48.7 48.5	48.1 48.2	44 44	1
22	48.8 50.0	33		22	55.9	59.6	46		22	50.3	50.1	41		22	48.2	48.0	45	
24 26	49.2 50.0 49.6 49.8	33		24 26	60.6	61.7 65.8	51 55		24 26	50.2	50.1 50.0	4I 4I		24 26	47.8	47.6	45 46	7
<b>28</b> ,	48.3 50.0	32	22.0	28	56.7 51.8	60.0	47	-20.5	<b>2</b> 8	50.7	50.2	41		28	47.2 47.5 47.9 48.8	47.1	46	
30 7 32 34 36 38 40	48.1 50.1 48.9 50.0	32	-22.9	30 32	52.2	57.0 57.5	4I 4I	-20.5	30 32	50.9 51.0	50.7 50.5	40 40	-16.8	30 32	47.9	47.7 48.1	45 44	-16.
34	47.9 49.1	31 31		34 36	45.0 47.2	51.5 57.2	31 37		34	51.1	50.7	40		34	49.3 50.8	48.9	43	
<b>3</b> 8	47.6 49.3	31		38	42.6	47.8	26		36 38	51.2 51.0	50.8 50.3	4I 4I		34 36 38	50.8	50.2 51.1	41 40	
40	48.2 48.7 47.9 48.6	3I 3I		40 42	45.0 46.8	49.8 50.7	30 32		40	49.6	49.I	43		40	52.0	51.5	39	
42 44 46 48	48.1 48.8	31		44	47.0	49.9	31	-20.5	42 44 46	49.3 49.8	48.9 49.2	43 42	-16.5	42 44	50.3 48.1	50.0 4 <b>7.</b> 9	41 45	-16.
46 48	46.2 47.7 47.0 48.8	30		46 48	46.8 47.4	49.5 49.0	31 31		46 48	50.0 49.8	49.1 49.0	42	-	44 46 48	47.2 48.8	47.0	45 46	
50	46.2 47.8	29		50	47.0	48.o	30		50	49.5	49.0	43 43		50	50.I	48.7 49.9	44 42	
52 54	47.0 47.8 46.2 46.9	30 28		52 54	46.8 45.2	47·3 51.2	29 31		52 54	49.8	49.7 49.3	42 42		52	51.1	50.6	40	
54 56 <b>5</b> 8	45.7 46.1	27		54 56	46.3	51.8	32		54 56	48.5	48. I	44		50 52 54 56 58	53.1 52.9 50.8	52.9 52.3	37 38	
58	42.5 48.2	26		58 24 00		51.1 52.0	32 34		58	48.2	48.1	45		58 🕠	50.8	50.2	41	-16.

Correction to local mean time is - 11.5s.

Observer—R. R. T.

Observer—J. V.

Torsion head at 19h 27m read 16° and at 24h 23m read the same.

#### MAGNETIC OBSERVATIONS

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Sunda	ay, March 20	, 1904				Magn	et scale	erect	Mono	lay, March 2	1, 1904			Ma	gnet s	scale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation.	Temp.	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp.
h m 4 00	d d 57.3 58.8	° ,	-16.o	h m 6 00	d 71.7	d 73. I	。 , 24 06	-16.9	h m 8 oo	d d High	0 ,	0	h m	d	d	• ,	•
02	58.3 59.2	45		02	72.I 70.8	73.8	07		02	winds			02				
04 06	58.8 59.7 59.1 59.5	45 46		04 06	70.8	72.1	04		04 06	prevented reaching			04 06				
08 10	59.0 59.2 59.2 59.4	45 46		08	71.3	72.I	05 03		08	observatory			08				
12	59.9 60.2	47 48		12	69.3	70.9 69.8 68.1	24 02		I0 I2	!	ļ		12			1	
14 16	60.7 61.0 61.3 62.0	48 49	-16.o	14 16	67.6	68.1 68.3	23 59 23 59	-16.9	14 16				14 16				
18	61.7 62.2	50		18	68.2	69.0	24 00		18				18				
20	61.6 62.1	50		20 22	69.2	70.I 71.4	02 04		20				20 22				
22 24	61.4 61.9	49 49		24	70.0	70.8	03	Ì	22 24			1	24 26			1	
26 28	61.9 62.1 62.2 62.4	50		26 28	69.2	70.1 70.2	02		24 26 28				26 28				
30	62.8 62.9	50 51	-16.1	30	69.1	69.8		-16.9	30	,			30				i
32	62.7 63.0	51		32	69.5	70.9	02 01		32	1.5	-	1	32	<		1	
34 36	62.3 62.9 61.3 61.9	51 49		34·5 36	67.4	69.7 68.8	24 00		34 36 38			·	34 36 38	1,1		ļ	1
38	60.1 60.0	47		38	67.1 68.7	68.0	23 58 24 OI		38				38 40			-	
40 42	60.1 60.4	47 48		40 42	70.0				40 42				42				ļ
44	60.2 60.5	47	-16.3	44 46 48	72.1	73.0	06	-17.0	44				44 46 48				
46 48	61.1 61.4 62.3 62.9	49 51	* 1	48	72.9	74.0 72.2	05		44 46 48 50 52 54 56 58				48	Ì			
50	62.9 63.3	52	, ·	50	72.1	72.3	<b>o</b> 6		50	1			50 52				
52 54	63.0 63.3 62.8 63.3	52 52 51	1	52 54	74.9	75.8 74.7	09		52 54				54				
54 56 58	63.1 64.0	52		54 56	72.0	73.3	06		56				54 56 58			1	
58 5 00	63.8 64.9 64.6 65.8	52 54 55	-16.7	58 7 00	71.7	72.3 71.4		,	9 00	1 s			11 00			1	
02	64.2 65.0	54 56		02	72.2	72.7 38.8	24 06		02	L.	ľ.		02				
04	65.5 66.1 66.1 66.8	56 57		04* 06	32.9	35.8 35.3	23 14		04				04 06				
o6 o8	66.1 66.7	57 58		80	30.0	34 9 28.2	23 08		08				08				
10	66.9 67.2	58		10 12	24.0	28.2 28.8	22 59 22 59		I0 I2				I0 I2				
12 14	66.2 67.1 65.9 66.9	57 57	-16.8	14	28.0	31.0	23 04	-17.0	14		1		14	}		}	
16	65.0 65.8	55		16 18		32.0 31.1		1	16				18			r	1
18 20	65.0 65.8 65.1 66.1	55 55 55		20	28.0	30.9	23 04		20	1			20	1			
22	65.0 66.3			22	25.0	27.3	22 59 58		22			-	22	ŀ			
<b>24</b> 26	66.0 67.4 67.6 68.8 67.7 68.8	23 57		24 26	24.1 23.I	26.7 25.3	56	ì	24 26							1	
28	67.7 68.8	24 00		28	23.I	25.3	56	76.0	28				26 28 30	1		İ	
30	67.1 68.3 66.9 67.9	23 59 23 58	-16.8	30 32	24.5 24.9		58	-16.9	30 32				32			1	
32 34.6 36 38	6 67.6 69.0	24 00	1	34 36	24. I	25.4	50		34		1		34 36	45.0	44 6		2 -16.8
36	67.6 69.1	00		36 38	22.5	24.I 23.2	54		36 38			•	38	45.3 46.1	45.0	40	
38 40	67.8 69.2 68.0 69.1	24 00	1	40	22.3	22.9	53		40				40	46.2	44.8	3 40	o   ´
42	66.9 67.9	23 58		42	22.6	23.8	54	-17.0	42	i	ŀ		42	47.0 48.0	44.7 44.9		
44	66.2 67.2 67.2 68.2	57 59	-16.8	44 46	22.7	23.8	54	1.5	46				44 46 48	48.1	45.1	39	9
46 48	67.0 67.9	59 58 58		48	25.0	25.4	57		48			.	48 50	48.2 46.4	44 · 5 45 · 9		
50	67.0 68.0	23 59	1	50 52	19.8	19.8 24.4			50			2	52	46.0	45.5	5 4	0
52 54	67.7 68.8	24 00		54 56	23	3.9a	55		54				54 56	46.1 46.1	45.1		0
52 54 56 58	68.1 69.3	.00		56 58	21.0	2I.5 23.2	51		44 46 48 50 52 54 56 <b>58</b>				58	48.3	43.1	[ 4	0
58	69.7 71.1	03		8 00	21.2	21.9	51	-17.0	• · ,				12 00	49.0			9 -16.

Correction to local mean time is — 51s. 90° torsion = 17.'58. Torsion head at oh oom read 27° and at 9h oom read 30°. Observer—R. R. T.

Correction to local mean time is — 1s. Torsion head at 11h 05m read 28° and at 12h 30m read 27°. Observer—J. V.

Chr'r time	Sc. read	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'i time	read	ale lings Right	East decli- nation	Temp C.
h m	d	d	0 ,		h m	d	d	0 /	0	h m	d	d	,	•	h m	d	d	۰,	•
2 00 02	39.7	41.1 41.8	22 46 47	-16.2	14 00 02	39.2 39.6	40.0 40.2	22 45 45	-14.4	0 00.4	50.4 50.1	44.2 44.3	22 4I 4I	-18.8	2 00	47.8 47.9	46.7 46.7	22 4I 4I	-15.0
04 06	40.2	41.9	47		04 06	39.2	39.8	44		04	49.2	43.5	42		04 06	47.8	46.6	41	
<b>o</b> 8	40.0 39.8	41.3 41.0	46 46		08	26.3 27.8	45.6 44.8	39 40		06 08	48.0 48.2	45.8 45.8	4I 4I		08	47.4 47.1	46.7 46.5	41 42	
IO I2	40.3	41.7 42.2	47 47		10 12	27.4 27.8	43.5 43.0	38 38		10 12	48.1 47.8	45.8 45.8	41 42		I0 I2	47.2 47.1	46.8 46.7	4I 4I	
14	40.7	42.3	47 48	-15.8	14	28.8	43.I	39		14	47.9	44.3	43	-17.9	14	47.2	46.8	41	-15.0
16 18	40.7	42.I 42.I	47 47		18	29.3 29.8	43.0 42.7	39 39	-14.2	16 18	48.3	44.0	43 43		18	47.0	46.7 46.7	42 41	
20 22	40.8	42.3 42.3	48 48 48	^	20 22	30.1 35.8	42.I 36.8	39 40		20 22	48.3 48.2	44.0 44.5	43 42		20 22	47.9 48.3	47.2 47.6	40 40	
24.5	40.9	42.3	48		24	35.6	36.7	39		24	48.6	45.1	42		24	48.7	47.9	39	
26 28	41.0 40.7	41.9 41.7	47 47		26 28	35·4 35·3	36.4 36.3	39 39		26 28	48.2 47.8	45.0 44.7	42 42		26 28	49.0	48.3 48.2	39 39	
30	40.7	41.6	47 48	-15.4	30	35.6	36.8 36.8	39	-14.1	30	48.1	45.8	41	-17.0	30	48.7	47.9	39	-15.0
32 34	41.3 41.9	42.2 42.9	49		32 34	35.7 35.6	<b>3</b> 6.8	39 39		32 34	48.0 48.3	45.8 46.0	4 <sup>I</sup>		32 34	48.3 48.0	47.6 47.3	40 40	
36 38	40.7 39.6	41.8	47 45		36 38	35.6 35.8	36.8 37.0	39 40		36 38	48.8 48.8	46.2 46.8	40 40		36 38	47.8	46.9 46.2	41 42	
40	40.2	41.1	46		40	36.0	37.2	40		40	49.3	47.6	39		40	47.5	46.1	42	
42 44	39.9 39.0	40.7 39.9	46 44	-15.2	42 44	36.1 35.9	37.I 37.I	40 40	-14.0	42 44	49.6	47.8 48.2	39 39	-16.3	42 44	47.8 47.6	46.2 47.1	4I 42	-15.0
46 48	39.3	40.2 41.2	45 46		46 48.4	35.9 35.2	36.9 36.5	<b>40</b> 39		44 46 48	49.1	47.8	39		44 46 48	47.9 48.1	46.3	41	
50		40.8	46		50	35.2	36.4	39		50	48.3 47.8	47.2 46.7	40 41		50	48.3	47.0 47.4	40 40	
52 54	39.2 39.8	40.2 40.5	45 46		52 54	35.2 35.1	36.7 36.3	39 38		52 54	47.1 46.3	46.3 45.6	42 43		52 54	48.3	47.8 47.3	-40 40	
56	40.0	40.8	46		56 58	34.8	36.0	38 38		56	45.7	45.0	44		56	47.6	47.2	41	
58 00	39.8 39.6	40.6	46 45	-15.0	15 00	35.1 35.8	36.3 36.8	30 40	-14.0	58 1 00	45.7 46.1	45.I 45.4	44	-15.7	58 3 00	47.2 47.1	46.9 46.4	4I 42	-15.0
02 04	39.7 40.1	40.I 40.7	45 46	_	02 04	36.7 37.1	37·7 38.0	41 41		02	46.0	45.8	43		02	46.9	46.4	42	
<b>o</b> 6	40.2	41.1	46		<b>o</b> 6	37.1	38.0	41		04 06	45.7 45.8	45.7 45.3	43 44		04 06	46.9 46.9	46.3 46.3	42 42	
08 10	40.I 39.3	40.7 40.1	46 45		08 10	37·4 37·6	<b>38.</b> 3 <b>38.</b> 6	42 42		. <b>0</b> 8	45.8 45.9	45.2 45.3	44 44		08 10	46.8	46.1 46.3	42 42	
12	39.2	40.0	45	140	12	37.6	38.2	42	74.0	12	46.3	45.4	43		12	47.3	46.8	41	
14 16	38.9 38.1	39.7 39.2	44 43	-14.9	14 16	37.1 36.4	37.8 37.3	41 40	-14.0	14 16	46.9 47.3	45.9 46.3	42 42	-15.2	14 16	47.8 47.8	47.0 47.1	4I 4I	-14.9
18 20	38.0	39.0 39.0	43 43	i	18	36.2	37.1 36.8	40 40		18 20	47.9 48.2	46.5 46.8	41 40		18 20	47.9 48.0	47.2 47.0	40 40	
22	38.3	39.3	43		22	36.1	36.7	40		22	48.8	47.1	40	-	22	48.0	47.0	40	
24 26	38.8	39.8 39.3	44 43		24 26	35.8 35.4	36.2 36.1	39 38		24 26	49.1 49.2	47.2 47.4	40 39		24 26	48.3	46.3	4I 4I	
28	38.2 38.8	39.0	43	-14.8	28	35.5 35.8	36.0	38		28	48.8	46.9	40		28	48.0	46.3	41	
30 32	39.9	39·3 40.6	44 46	-14.6	30 32	35.7	36.3 36.3	39 39	-13.9	30 32	47.9 47.4	46.3 46.0	40 42	-15.2	30 32	47.8	46.3	4I 4I	-14.9
34 36	40.0 39.I		46 44		34 36	35·3 35·I	36.1 35.7	39 38 38 38 38 38		34 36	47.I 47.0	45·9 45·9	42		34	47-4	46.0	42	
38	38.7	39.8	44		38	34.8	35.4	38	i	38	47.5	46.4	42 41		36 38	47.I	46.1 45.9	42 42	
40 42	39.0	40.3	45 45	-	40 42	34·9 35·3	35.4 35.8	38		40 42	47.7 47.8	46.7 46.8	4I 4I		40 42	47.4	45.8 45.8	42 42	
44	39.2	40.8	45	-14.7	44	35.3 35.6	36.2 36.2	39	-13.9	44	47.8	46.8	41	-15.2	44 46	47.I	45.6	42	-14.9
46 48	39.2 38.5	39.9	45 44		46 48	36.0	36.7	39 40		46 48	48.0 48.0	47.I	40 40		46 48	47.0	45.6 45.8	42 42	
50 52	38.2 38.6	39·3 39·5	43 44		50 52	36.6	37.2 38.2	40 42		50 52	48.1	47·3 47·2	40 40		50	47.2	45.9	42	
54	38.1	38:9	43		54 56	38.1	38.8	43		54	48.0	46.9	41		52 54	47.2	46.0 45.8	42 42	
54 56 58	38.5	39.2 39.0	43 44		56 58		38.8 38.2	43 42		56 58		46.8 46.7	4I 4I		56 58	46.8	45·4 45·3	43 43	

Correction to local mean time is -378. 90° torsion = 16.'01. Torsion head at 11h 30m read 24° and at 16h 20m read 22°.

Observer-R. R. T.

Observer-R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Chr'r time	Scale readin Left Ri	gs	East decli- nation	Temp C.	Chr'r time	Sca read	ings	East decli- nation	Temp. C.	Chr'r time	Sca read	ings	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temn C.
ı m	d	d	0 /	0	h m	d	d	0,	0	h m	đ	d	0 /	0	h m	d	d	0 /	0
00	46.6 4 46.7 4	15.6 15.8	22 43 42	-14.9	6 00	35.9 36.3	35.2 35.2	22 59 59	-14.8	8 00	42.5 43.9	40.0 40.0	22 50 49	-I4.2	IO 00 02	44.5 44.8	42.3 41.1	22 47 48	-15.0
04	46.8 4	15.8	42		04	37.2	36.3	57		04	43.I	39.4	50		04	45.2	41.0	47	
06 08		ю.о∘ ф.2	42		06 08	37.9	36.9 38.0	56 55		06 08	42.4	39.2 39.2	51 51		o6 o8	45.9 45.9	41.0 40.7	47 47	
I0 I2		16.6 16.3	4I 42		10 12	40.3	39.I 40.I	53 51		10 12	42.5	40.0 41.0	50 50		10 12	45.8 45.5	41.8 41.8	46 47	
14	46.8	46.0	42	-14.9	14	39.4	38.8	54	-14.8	14	42.5 42.8	41.9	49	-14.6	14	45.2	42.0	47	-15.2
16 18		45.6 45.2	43 44		16	36.2 37.1	35.0 36.4	59 57		16 18	43.3	41.8 41.6	48 49		16 18	46.0 46.1	41.9 41.9	46 46	
20	46.3	45.2	43		20	37·7 38.8	36.8	57		20	42.2	40.9	50		20	46.2	41.8	46	
22 24		45.0 45.2	44 43		22 24	38.8	37·7 36.6	55 57		22 24	41.9	40.8 40.2	50 51		22 24	45·4 45·3	42.5 42.2	46 46	
26	46.8	45.9	42		26 28	37.1	35.9	57 58		26	42.1	40.I	50		26 28	45.3	42.3	46	
28 30.3		45·7 44·9	42 44	-14.9	30	36.2 36.1	35.I 34.9	59 22 59	-14.8	28 30	42.7 42.1	40.0 40.9	50 50	-14.7	30	44.3	43.0 42.5	47 47	-15.3
32	46.0	44.7	44		32	34.1 35.8	32.7 34.0	23 03 23 00		32	42.I 42.2	40.0	51		32	44.9 44.8	42.5 42.8	46 46	
34 36		44.5 44.2	44 45		34 36	36.2	35.1	22 59		34 36 38	42.6	39.9 40.5	51 50		34 36	45.1	43.0	46	
38		44.6 44.7	44 44		38 40	38.5	37.2 38.2	56 54		38 40	42.8	41.2 41.0	49 50		38 40	45.0 45.1	43.6 43.2	46 46	
40 42	46.0 4	44.9	44		42	39.7	38.3	54		42	41.3	40.2	51		42	44.7	43.9	46	
44 46		45.6 45.9	42 42	-14.9	44 46	39.4 38.1	38.3 37.2	54 56	-14.7	44 46	42.0 42.1	39.0 38.7	51 52	1	44 46 48	44.7	44.1 43.8	45 44	-15.0
48		45.I	43		48	37.9	37.2	56		48	42.9	38.8	51		48	46.3	44.2	44	
50 52		44.1 43.9	44 45		. 50 . 52	36.7	35.8 32.2	22 58 23 04		50 52	42.7	38.8 38.6	51 50		50 52	45.7	44.I 43.9	45 45	
54	46.1 4	44.7	44		54	34.5	33.2	02	1	54 56	43.7	39.0	50		54	45.3 45.8	43.I	45	
56 58	46.0	45.2 44.8	43		56 58	35·3 36.1	33·7 34·4	23 00		50 58	44.0 45.2	39.6 39.8	49 48		54 56 58	45·3 44·9	43·9 43·9	45 45	
00	45-3 4	44.2	45 46	-14.9	7 00	36.9	35.2 36.0	22 58	-14.4	9 00	44.9	39.0	49	-14.6	II 00 02	44.8	44.2 43.8	45	-15.9
02 04		43.3 43.0	40		02 04	37·4 37·2	36.0	57 58 58		02 04	44.2 44.0	38.9 39.2	50 50		04	45.0	43.6	45 45	
<b>o</b> 6	44.7 4	43.2	46		<b>o</b> 6 <b>o8</b>	36.7 37.9	35·3 36.8	58 56		o6 o8	44.0	40.0	49 49		06 08	46.1	44.0 44.0	44 44	
08 10		44.3 44.0	45 45		10	37.9	36. <b>0</b>	57		10	43.9 43.9	40.0 40.0	49		10	46.4	44.0	44	
12	45.5 4	43.3	45	-14.9	12 14	37.2 37.2	35.8 36.0	58 58	-14.3	12 14	44.2 44.2	39.9 39.8	49 49	-14.6	I2 I4	46.1	44.0 43.9	44	-16.0
14 16		42.6 43.2	45 46 46	74.9	16	38.2	37.4	56		16	45.0	38.6	49	14.0	16	46.8	43.0	45	
18	45.0 4	43.6	46 46		18 20	40.2	39.2 39.2	53 52	r.	18 20	44.8 44.1	38.0 39.0	50 50		18 20	47.0 47.3	42.9 43.2	45 44	
20 22	44.1 4	13.2 12.6	47		22	39.4	38.3	54		22	44.8	40.2	48		22	47.5	44.0	43	
24 26	43·3 4 44·0 4	12.2 12.8	48 47		24 26	36.2	35.4 35.0	59 59	15	24 26	45.0 44.1	40.0 39.5	48 49		24 26	47.9 46.7	44.7 44.6	42 44	
28	46.0 4	15.0	44		28.5	38.4	37.6	55		28	43.0	39.5	50	0	28	46.3	44. I	44	ł
30	47.2 4	16.5 15.0	42	-14.8	30 32	40.0	39·3 39·3	53 53	-14.2	30 32	42.8 44.0	39.8 39.9	50 49	-14.8	30 32.2	47.5 49.2	45·4 45·9	42	
32 34	42.7 4	12.3	44 48		34	36.8	35.6	53 22 58	, į	34	44.4	40.0	49			50.0	45.3	40	
34 36 38		12.2 14.2	48 45		36 38	34.9 37.1	34.I 35.2	23 OI 22 58	×	36 38	43.9 44.8	40.6 41.1	49 48		34 36 38	49.2	45.2 44.4	41 42	
40	45.0 4	14.3	45		40	40.0	37.9	54		40	45.0	41.9	47		40	48.0	43.9	43	
42	42.9 4 41.1 4	12.4 10.3	45 48 51	-14.8	42 44	42.2 41.8	38.5 37.8	52 53	-14.2	42 44	45.0 44.8	42.I 4I.3	47 46	-14.9	42 44	47.I 47.0	42.8	44 45	
44 46 48	40.7 4	μ.ι	52	,	46	41.2	38.0	53		46	42.9	42.8	46 48		46	46.3	43.0	45	
48	41.3 4	μ.7	51 47		48 50	41.6 41.6	38.7 38.7	52 52	· · ·	48 50	43.0 42.8	42.0 42.0	48 48		50	46.3	43.0 44.5	45 43	
52	46.2 4	3.I 5.4	43		52	41.1	39.3	52	i.e.	52	42.8	42.5	48		52	47.0	44.2	44	<b>.</b>
50 52 54 56 58		5.3 1.3	44 50		54 56 58	40.7	39.5 39.1	52 52 52	120	54 56 58	43.5	42.8 42.3	47 48		44 46 48 50 52 54 56 58	46.6 47.0 47.8	45.I		

Observers—R. R. T. and J. V., who alternated from 7h 32m to Observer—J. V. 7h 42m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

			004		ı							1		1				-
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem C.
h m	d d	0 ,	0	h m	d	d	· ,	0	h m	d	đ	0 ,	•	h m	ď	d	0 ,	0
2 00 02	49.2 48.1 51.0 48.0	22 39	-16.9	14 00 02	56.0 54.3	52.0 52.8	22 30 31	-18.0	16 00 02	52.6 52.4	49.6 49.6	22 35 35	-18.2	18 00 02	51.6 51.3	50.9	22 35 35	-17.6
<b>0</b> 4 <b>0</b> 6	51.0 48.9 49.8 48.2	37 38		04 06	53.9 54.0	53.3 53.8	31 30		04 06.4	52.7 53.3	50.1 50.6	34 34		04 06	51.3 51.2	50.7 50.7	35 35	
<b>o</b> 8	48.1 47.0	40		o8	54.2	53.0	30		08.1	53.3	50.6	34		08 10	51.2 51.1	50.8 50.7	35	
10 12	50.0 42.8	42 41		I0 I2	54.7 55.0	53.0 52.8	30 30		I0.4 I2	53.8	50.6	33 33		12	51.1	50.9	35 35	
14 16	51.8 44.0	40 38 38	-17.0	14 16	54.9	52.7 52.8	31	c.81	14 16	53.2 52.6	50.8 50.7	33 34	-18.0	14 16	51.1 51.4	50.9 51.2	35 34	-17.5
18 20	52.9 45.3	38 39		18 20	55.8 54.3	52.4 52.3	30 31		18 20	52.6 52.6	50.8	34 34		18 20	51.7 51.6	51.3 51.3	34 34	
22	52.3 45.1 51.2 45.0	40		22	53.5	51.9	32		22	52.6	51.2	34		22	51.6	51.4	34	
24 26	50.8 45.0 51.2 45.2	40 39		24 26	53.0	51.I 51.0	33		24 26	52.7 52.6	51.2 51.1	34 34		24 26	51.9 52.2	51.8	34 33	
28 30	51.0 45.7 50.3 45.8	39 40	-17.2	28 30	52.4 52.0	50.8 50.8	34 34	-18.o	28 30	52.7 53.I	51.3 51.9	33 33	-17.9	28 30	52.2 52.3	51.8 51.8	33 33	-17.6
32	51.2 44.3	40	-7	32	52.0	50.0 50.5	35		32	53.1	52.3	32		32	52.2 52.2	51.9	33 33	
34 36	51.2 45.0 51.1 44.9	40 40		34 36 38	51.9 52.0	51.0	35 34		34 36	53.0 52.6	51.9 51.6	33 33		34 36	52.1	51.8	34	
38 40	50.0 44.0	40 41		38 40	52.9 52.8	51.6 50.4	33 34		38 40	53.1 53.2	52.0 52.3	33 32		38 40	52.I 52.3	51.6 51.7	34 33	
42 44	50.0 44.0	4I 4I	-17.4	42	52.0 52.3	49.8 49.1	35 35	-18.1	42	53·3 53·2	52.8 52.6	32 32	-17.8	42 44	52.4 51.8	51.8	33	-17.6
46	50.9 44.5	40	17.4	44 46 48	53.3	49.5	34	-0	44 46	52.7	52.3	33	.,	44 46 48	52.0	51.4	34	'
48 50	50.5 45.0 50.3 46.0	40 40		50	55.0 55.8	48.4 49.0	34 33		48 50	53.0 52.8	52.4	32 32		50	52.3 52.3	51.6	34 33 33	
52 54	50.8 46.9 51.0 47.2	40 38 38		52 54	55.7 57.2	50.6 51.0	32 30		52 54	52.6 52.2	52.3 51.6	33 34		52 54	53.0 53.3	51.8 52.1	33 32	
56 58	51.8 47.8 52.3 47.8	37 36		54 56 58	57.0 58.0	51.8 53.0	30 28		56 58	51.7 52.1	51.1 51.2	34 34		54 56 58	52.8 53.3	51.3 52.3	33 32	
3 00	53.1 47.5	36 36	6	15 00	59.1	54.0	26	-18.2	17 00	52.3	51.3	34	-17.7	19 00	53.6	52.3	32	-17.6
02 04	52.5 47.6 52.6 47.1	30	-17.6	02 04	60.0	54.0 53.0	26 26		02 04	52.1 52.2	51.4 51.5	34 34		02 04	53·9 53·4	53.0 52.9	31 32	
o6 o8	52.8 47.0 52.7 47.2	37 37		06 08	60.1	53.6 53.0	26 26		06 08	52.3 52.4	51.8 51.9	33 33		06 08	53.1 53.0	52.8 52.8	32 32	
IO I2	53.9 47.8	35		I0 I2	59.9 59.4	52.4 52.5	27 27		I0 I2	52.6	52.0	33		I0 I2	53.2	52.8 53.2	32 32	
14	53.2 48.0	35 36	-17.8	14	59.0	52.6	27 28	-18.5	14	52.7 53.1	52.1 52.3	33 32	-17.6	14	53·3 53·3	53.0	32	-17.5
18 16	52.0 48.8 52.0 48.1	36 36		16 18	58.2 58.9	52.0 51.0	28 29		16 18	53·3 53·3	52.7 52.4	32 32		18	54·3 53·9	53.8 53.5	30 31	
20 22	52.2 47.5 52.0 48.1	37 36		20 22	57.0 56.7	51.1 51.3	30 30		20 22	52.7 52.5	51.4 51.6	33 33		20 22	53.2 53.8	53·5 52.8 53·4	32 31	
24	53.2 48.6	35		24	55.9	51.1	31		24	53.I	52.3	32		24	54.3	54.0	30	
20 28	54.0 49.0 54.0 49.0	34 34		26 28	54.0 51.1	49.2 48.0	34 37	0.6	26 28	52.8 52.6	52.0 51.7	33		26 28	54·3 53·7 55·8	53·9 53·7	30 31	
30 32	55.0 49.1 55.0 49.0	33 33	-18.0	30 32	51·3 53·9	49.7 50.4	36 33	-18.6	30 32	52.6 52.7	51.8	33 33	-17.5	30 32	55.8	55·4 54·9	28 28	-17.
34	55.0 48.4 55.0 49.2	34 33		34 36 38	55.0 56.9	53·5 54·4	30 28		34 36	52.6 52.6	51.8	33 33		34 36 38	55.3 56.5 56.3	55.8 55.3	27. 27	
36 38	54.2 49.I	34		38	59.0	55.0	26		38	52.8	52.2	33		38	57.1	56.2	27 26 26	
40 42	55.8 49.9 55.0 50.8	32 32		40 42	58.5 59.2	57.0 57.0	24 24 26		40 42	52.6 52.6	52.0	33 33		40 42	57.2 58.3 57.8	55.8 56.6	25 26	
44 46 48	54.2 51.0 53.9 51.0	32 33	-18.0	44 46 48	57.9 56.2	55.2 55.0	26 28	-18.7	44 46	52.5 52.4	52.1 51.9	33 33	-17.5	44 46	57.8 58.2	56.2 57.0	26 25	-17.0
48	54.1 51.8	32		48 50	55·3 54·2	54·3 53.8	29		48	52.2	51.7	34		48	58.9	57.0	24	
52	56.0 52.3 56.0 52.5	30 30		52	53.6	53.2	30 31		50 52	52.0 52.0	51.6	34 34		50 52	58. I 59.0	56.7 57.6	25 24 26	
50 52 54 56 58	56.0 52.5 56.9 53.5	30 28		54 56 58	53.0 53.5 52.8	52.9 51.3	32 33		54 56	51.8 51.6	51.0	34 35		54 56	57.8 58.0	56.3 56.6	26 25	
58	57.0 52.9	29		58	52.8	50.8	34		58	51.6	50.9	35		58	58.5	57.3	. 24	

Observers—J. V. and W. J. P., who alternated from 15h 46m to Observer—W. J. P. 15h 58m.

#### MAGNETIC OBSERVATIONS

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedr	nesday, Marc	h <b>23</b> , 19	04		Ma	gnet s	cale inve	erted	Thurs	sday, N	<b>I</b> arch	24, 1904				Magne	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp C.	Chr'r time	Sc read Left	ings	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation.	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp. C.
h m	d d	0 ,		h m	d	ď	0 ,	-18.o	h m	d	d .e e	0 ,	-20.7	h m	d 47.2	d 47.8	22 35	-19.0
20 00 02	59.3 58.0 59.5 58.1	22 23	-17.7	22 00 02	59.3 60.3	58.0 58.6	22 23 22	-18.0	16 00 02.2	47.9 47.6	48.8 48.3	22 36 36	-20.7	02	48.1	48.4	36	, 19.0
04 <b>0</b> 6	59.0 57.8 58.5 57.5	23		04 06	60.3 58.4	58.9 57.2	22 24		04 06	47.7 48.1	48.3 48.9	36 36		04 06	49.1 49.2	49.2 49.7	37	
08	58.8 57.9	24		08	58.3	57.6	24		08 10	47.4 48.1	48.0 48.3	35 36		08	49.1	49.4	38 37	
10 12	61.0 59.4 61.5 60.3	20 19		I0 I2	57.5 57.0	57.0 56.8	25 26	_	12	48.2	48.8	36		12	47.9	48.3	36	70.0
14 16	61.0 60.3 62.3 61.3	20 18	-17.9	14 16	55·7 55·3	55.5 55.0	28 28	-18.2	14 16	48.2 47.5	48.8 47.8	36 35	-20.2	14 16	47.9 48.1	48.2 48.4	36 36	-19.0
18	63.0 62.0	17		18	55-5	55.3	28		18	47.3	47.8	35		18 20	48.2	48.7 48.8	36 36	
20 22	62.2 60.7 61.0 60.2	19 20		20 - 22	55.0	55.7 54.8	27 29		20 22	47.T 46.8	47·9 47·7	35 34		22	47.9	48.7	36	
24 26	58.9 58.8 57.2 57.1	23 25		24 26	54.4 53.8	53·9 53·3	30 31		24 26	45.9 46.2	47.0 47.7	33		24 26	48.5 49.1	48.0 49.6	37 38 38 38	
28	58.1 57.8	24		28	54.8	54.I	30 28		28	45.9	47. T	33		28	49.1 49.1	49.7	38	-IQ.C
30 32	57.3 56.3 56.9 56.0	26 26	-18.0	30 32	55.8	54·9 55·0	28	-18.3	30 32	45.0	46.2 46.8	32	-19.7	30 32	48.8	49.4	37 36	19.0
34	56.3 55.9	27 26		34 36 38	56.3 55.6	55.3	27		34	46.2	47.8 47.9	34 34		34 36 38 40	48.2 48.6	48.9 49.0	36	
34 36 38	57.3 56.3	26		38	55.8	54.8	29 28		36 38	46.9	48.2	35		38	48.6	48.9	. 37	ĺ
40 42	57.0 55.6 57.2 55.8	27 26		40 42	56.1 56.7	55.3 56.0	28 27		40 42	47.2 46.9	48.4 48.2	35 35		42	48.7 49.6	49.0 49.9	37 38 38 38	
44 46	58.5 57.2	24	-т8.о	44	55.8	55.3	27 28	-18.4	44 46	46.9		35	-19.3	44 46	49.1 49.2	49.4 49.6	38	-19.0
40 48	58.3 56.9 58.3 57.0	25 25		46 48	54.0 53.6	53·5 53·2	31		48	46.2	47.3 47.1	34		48	49.0	49.3	37 38	ľ
50 52	58.6 57.7 62.3 61.1	24 18	1	50 52	53.0 53.3	52.4 53.0	32 32		50 52	46.0	47·3 46.9	33		50 52	48.9	49.8	37	
54 56	61.5 60.3	19	-	54	54.3	53.7	30		54 56	46.7	47.0	34		54 56 58	48.3	50.1 50.8	37 38 38 38	
56 58	61.1 59.3	20		56 58	52.8	52.3 52.7	33		56 58	46.6	47.1 46.9	34 34			48.7	50.8	38	
21 00	62.2 60.5	19	1	23 00	52.I 52.I	51.6 51.9	34	-18.4	17 00 02	46.7	47.0 46.0	34	-19.I	19 00	40.2	50.7	30	-19.0
02 04	62.0 60.5 63.4 61.8	19		04	52.6	52.3	33		04	46.7	47 I	34		04 06	40.0	50.9 50.2	30	-
об 08	63.7 60.5	18		06 08	52.7	52.2 51.6	33 34		06 08	46.7	47.0 46.2	34		08	47.9	49.3	36	
10	66.3 62.7	14	1	10	52.1	51.8	34		10 12	47.1	47.3	34 34		10 12	48.5	49.7 49.8	37 38	
12 14	60.1 58.9 57.0 54.3	22 28	-18.o	12 14	52.1 52.1	52.0 51.0	33 33	-18.5	TA.	46.3	47.0	33		14	49.7	50.5	30	-19.0
16	65.0 61.6	16 22	1	16	52.I 52.3	51.8 51.6	34		18	45.1	45.8 46.0	32		16	49·3 50·0	50.3 50.8	38	
18 20	60.7 57.3	22		20	52.3	51.4	34		20	46.0	46.2	33		20 22	49.9 49.9	50.6 50.5	39	
22 24	50.0 57.5 55.6 52.0	23 31		22 24	52.8 52.5	51.9 51.4	33		22 24	46.2	46.7	33		24	40.7	50.4	39	
<b>2</b> 6	51.0 40.2	36		26	52.2	51.0	34		26 28	45.8 45.1	46.4 45.8	33 32		26 28	48.7 48.0	49.3 48.8		
28 30	50.3 56.6 60.8 67.2	24 07	-18.0	28 30	53.8	52.8	31	-18.5	30	45.2	45.8	32	-19.0	30	47.3	48. t	35	-19.0
32	66.6 63.7 63.6 62.0	13		32	53.5	52.3 52.4			32 34	44.9 45.1		3I 3I		32	47.2 46.9	47.7	35	
31 36	61.8 59.2	20	1	36	53·5 53.6	52.4	32	1.	36	45.0	45.3	31	1	36 38	47.1 47.0	47.8		<u> </u>
,38 40	54.3 51.5 54.3 52.0	32 32		38 40	53.9 53.2		32 32		38 40	44.8 45.2	45.3	31		40	47.1	47.4	. 34	1
12	54.8 51.8	31		42	53.6	52.3	32	_	42 44	45.7 45.8	46. I	32		42	47.I 47.3			
41 46	61.2 58.8	2I I9		44.46.4	53.6 53.0		32	L.	46	45.9	46.2	32		46	46.9	47.3	34	1.
48	59.5 57.6	23		48	53.0 52.0	52.I	33	1	⊿8, 50	46.9 47.0	47.0 47.3			48 50	46.4			
50 52	59.2 57.6 50.3 57.6	23 23		50 52	53.8	52.9	31	1		46.8	47.1	34		52	44.9	45.7	3	t   [
54	58.3 56.3	25 26		54 56	54.I 54.3		31		52 54 56 58	47.1 47.2	47.3 47.6			54 56	43·3 42.8	43.9	) 28	3
52 54 56 58	57.7 56.0 58.3 56.7	25		58	54.2	53.2	31		58		47.3			20 00	42.8	43.6	5 28	8 -19.
			1 '	24 00	54.2	53.1	31	-18.5	[]					20 00	42.0	40.0	,	19.

Correction to local mean time is — 24s. Torsion head at oh oom read 25° and at 24h 20m read the same. Observer—W. J. P. Correction to local mean time is +22.5s. 90° torsion =17.59. Torsion head at 15h 30m read 31° and at 20h 20m read 35°. Observer—R. R. T.

Frida	y, March 25	, 1904			Ma	gnet s	cale inv	erted	Sund	ay, Ma	arch 27	, 1904 .				Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation.	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale dings Right	East decli- nation.	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d d	0 /	•	h m	đ	đ	0 ,	9	h m	đ	d	0 1	0	h m	d	đ	0 ,	, •
20 00 02	39.4 39.1 39.2 38.8	22 24 24	-23.0	22 00 02	42.I 42.5	40.3 40.2	22 20 20	-21.2	0 00*	42.3 44.0		22 2I 23	-25.9	2 00 02	66.2 64.1	67.0 65.0	22 57	-21.9
04 06	39.1 38.5	24		04 06	42.3	41.5	19		04	44.2	46.8	23		04	65.2	66.0	54 56	
o8	40.8 40.1	24 22		08	43.I 42.I	42.3 41.0	20		06 08	46.7 45.9	49.2 47.9	27 26		06 08	62.3 60.6	61.3	51 48	1
10 12	41.3 40.2	2I 20		10 12	43.8	42.9 40.5	17 21		10 12	48.2 53.8	50.9 54.7	30 37		10 12	59.9 59.0	60.3 59.8	47 46	
14 16	42.3 40.7 43.7 41.4	20 18	-22.7	14 16	41.9	41.3	20 19	-21.0	14 16	57.I 60.3	58.1	42 47	-25.0	14 16	58.0 59.8	58.7	44 47	-21.3
18	42.0 39.2	21		18	39.9	39.4	23		18	62.1	63.9	51		18	57.7	58.3	44	
20 22	43.3 41.0	19 21		20 22	37·7 38.6	36.8 38.0	27 25		20 22	63.2	65.3	52 54		20 22	59·3 63·7	60.1 64.3	47 53	
24 26	41.0 41.1	20 20		24 26	44.0 37.6	42.5 36.3	17 27		24 26	63.7		52 52		24 26	62.2	63.0 69.8	22 5I 23 OI	
28 30	42.4 40.6 41.2 39.0	20 22	-22.5	28 30	37.8 38.4	36.3 37.5	27 26	-20.7	28 30	61.3 61.3	61.9 62.0	48 40	-24.9	28 30	65.1 59.0	66.1 59.9	22 56 46	-21.0
32 34	42.9 40.2 40.0 38.9	20 23	3	32 34	35.8 35.9	34·9 34·7	30 30	,	32.2	61.2 60.2	61.7 60.8	48	24.9	32	55.9 58.8	57.8 60.8	42	21.0
36 38	38.7 38.1	25		36	36. I	34.6	30		34 36 38	60.7	61.3	47 48		34 36 38	δτ.r	бз. т	47 50	
40	40.5 37.3 37.8 36.6	24 27		38 40	36.3 35.9	35·4 35·5	29 29		40	59·3 59·7	60.8 60.6	46 46	1	38 40	58.7 58.2	60.8 59.9	47 46	
42 44 46	41.7 39.5	21 19	-22.3	42 44	35.0 34.5	34-3 33-4	31 32	-20.3	42 44		60.8 .1a	47 48	-23.7	42 44	55.0 55.0	57.0 56.9	41 40	-20.0
46° 48	42.I 40.3 43.3 42.4	20 18		46 48	33·4 33·0	32.4 32.1	34 34		44 46 48	55.6	.3b 56.7	39 40		44 46 48.5	61.7	62.8	22 51 23 03	
50 52	43.5 42.7 43.2 42.6	17		50 52	32.3	31.5	35 36		50 52	56.3 58.8	57·5 59.6	41		50	75.1	76.0	12	
54 56	42.5 42.1	19		54	31.6	30.4	36		54	56.3	57-4	45 41		52* 54 56	39.9 35.1	46.4 40.9	23 04	
58	42.I 4I.7 44.3 42.9	19 17		56 58	31.9	30.8 <b>30.</b> 4	36 36		56 58	58.0 58.6	59.1 59.8	44 45		56 58	27.0 25.2	33.5 31.9	22 52 50	
21 00 02	43.5 42.1 42.8 41.3	18	-22.0	23 00 02	32.3	31.I 29.9	35 37	-20.0	I 00 02	58.9 58.0	59.9 59.0	45 44	-23.0	3 00	26.3 26.4	32.8 32.8	51 51	-20.5
04 06	43.6 42.8 42.1 40.4	17 20		04 06	32.2 31.9	30.5 30.2	36 36		04	60.9 57.1	61.8 58.8	48 43		04 06	28.1 28.8	33.8 34.1	53 54	
08 10	41.5 39.7	2Ĭ 2Ĭ		08	32.4	30.8	36		08	58.7 62.1	59.1 63.4	45		08	27.1	32.0	51	
12	41.7 39.6	21		12	33.4	30.7	35 36		12	66.T	67. r	51 57		10 12	25.8 27.9	31.1 33.2	50 53	
14 16	41.6 39.3 41.1 30.0	22 22	-22.0	14 16	32.3 31.8	29.6 20.6	36 37	-20.0	16	63.1 57.2	63.8 57.9	52 43	-22.8	114 16	31.1	36.2 41.0	22 58 23 06	-20.3
18 20	40.3 38.5 39.7 38.6	23 24		18 20	31.8 32.6	28.7 29.8	38 36	į	18 20	61.7 50.3	62.5 60.2	50 46		18 20	31.3 28.9	35.0 33.7	22 57 54	
22 24	40.8 30.5	22 24		22 24	32.8 31.8	30.I 29.3	36 37	,	22 24	61.8	62.7 63.8	50 52		22 24	26.7 27.4	30.8 31.2	50 51	
26 28	39.8 38.2 40.0 38.3	24 24		26 28	33.3	31.5	34		26 28	·61.1	62.1 62.2	49		26	21.5	25.5	42	
30	42.0 40.2	20	-21.7	30	33.4	30.6	34 35	−20.u	30	64.0	65.8	49 55	-22.3	28 30	22.9 24.I	<i>2</i> 6.8	44 45	-20.0
32 34	42.2 40.7 43.4 42.8	20 17		32 34	29.5 29.5	27.7 27.8	40 40		32 34		63.7	53 52		32 34	31.5 34.2	33.2 36.4	22 56 23 OT	
36 38	43.6 42.3 45.3 43.2	18		36 38	31.8	20.3 28.0	37 30		36 38	63.4 60.8	61.8	52 40		36 38	33.I 32.I	35-7 33-0	22 59 22 57	
40 42	44.1 42.7 44.1 43.6	17 16		40 42	32.2 30.8	30.1 28.2	36 39		40 42	59.6 59.8	60.3	46 47		40	35.0	36.8	23 02	
44 46	43.3 43.1 43.4 42.2	17	-21.4	44		27.5 28.2	40 38	-19.8	44 46	50.2	60.2 61.5	46	-22.0	42 44	39.0 34.7	41.2 36.0	08	-20.0
48	43.2 42.7	18		48	31.1	27.6	39		48	65.1	66.6	40 22 56		46 48	27.0 28.2	29.3 31.8	22 49 22 52	
50 52	43.0 42.2 44.9 42.4	18 17		50 52	30.7	27.2 28.5	40 38		50 52	68.1 63.4	64.4	23 00 22 53		50	33.8 34.0	36.7 37.6	23 OI 02	
52 54 56 58	42.7 41.2 41.0 40.6	19 20		54 56	32.0 31.0	28.8 29.0	37 37		54 56	67.2 67.2	68.3	59 50		52 54 56	34.8 33.2	37.2 35.2	23 02	
58	41.8 40.0	21		58 24 00	32.6 32.3	20.2	36 37	-19.7	58	66.7	67.9	58	:	58	29.8	31.8	22 59 54	

Correction to local mean time is + 19.5s.

Torsion head at 19h 30m read 35" and at 24h 00m read the same. Observer—H. H. N.

Observer-R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Dund	ay, March 27	, 1904			Ma	ignet s	cale inv	erted	Mone	iay, March 2	8, 1904				Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sc read	_	East decli- nation	Tem C.
m 00* 02 04 06	d d 49.0 47.4 48.1 47.1 52.4 51.9 50.2 48.8	23 02 23 02 23 02 22 56 23 00	-19.8	h m 6 00 02 04 06	d 29.1 24.4 40.9 34.8	d 28.5 22.2 40.5 32.8	23 33 42 14 25	-18.9	h m 8 <b>00</b> 02 04 06	d d Fibre broken; had to remove	0 ,	0	h m 10 00 02 04 06	d	đ	• ,	0
08 10 12.4 14 16 18	45.4 43.7 48.8 46.7	04 08 09 08 23 03	-19.7	08 10 12 14 16	31.9 51.9 42.8 36.0 36.9	31.1 50.9 42.1 35.1 35.0	23 29 22 58 23 12 23 22	-18.9	08 10 12 14 16	torsion new fibre			08 10 12 14 16				
20 22 24 26 28	50.8 48.9 49.2 47.7 50.0 48.3 50.0 48.8 48.0 47.1 48.9 48.2	22 59 23 02 00 00 03 23 01		18 20 22 24 26 28	36.2 35.7 34.6 33.7 38.3 37.2	35.1 34.1 33.2 32.4 36.6 35.7	23 24 25 27 20 22		18 20 22 24 26 28				18 20 22 24 26 28			-	
30 32 34 36 38	51.2 50.6 48.3 47.9 47.0 46.1 44.3 42.1 41.1 40.8	22 58 23 02 04 10 13	-19.4	30 32 34 36 38	34.3 36.2 35.1 33.5 31.0	32.6 34.8 33.5 33.1 30.2	26 23 25 26 31	-18.8	30 32 34 36 38				30 32 34 36 38				
40 42 44 46 48 50	42.1a 47.8 47.8 52.0 51.2 48.3 47.6 49.8 49.1 48.1 47.2	23 02 22 57 23 02 00 03	-19.3	40 43 44 46 48 50	37.8 39.2 41.0 43.3 42.9 40.3	37.2 37.8 38.7 40.8 39.1 38.9	20 18 16 13 14		40 42 44 46 48 50				40 42 44 46 48 50	56.8	59.8	22 46	-10.
52 54 56 58 50 02 04	44.8 44.8 45.1b 46.7 45.3 46.1 45.6 43.7 42.9 46.0 45.3 51.0 50.5	07 07 06 06 10 23 06 22 58	-19.3	52 54 56 58 7 00 02 04	43.7 43.1 40.9 41.0 47.4 37 35.9	.5b	12 12 16 15 06 20 24	-18.8	52 54 56 58 9 00 02 04				52 54 56 58 11 00 02 04	57.9 55.6 54.2 53.3 53.3 52.9 54.4	59.7 57.9 56.5 55.9 55.7 56.0 56.7	47 43 41 40 40 40 42	-10.
06 08 10 12 14 16	45.8 45.3 46.8 45.1 61.1 57.8 69.4 68.9 53.0b 27.8a	23 06 23 06 22 45 29 22 55 23 34	-19.1	06 08 10 12 14 16	41.3 42.7 44.3 36.2 36.9 40.8	39.6 41.2 42.5 34.1 35.7 39.8	16 13 11 24 22 16	-18.7	06 08 10 12 14 16			]	06 08 10 12 14 16	54.8 54.6 57.0 57.6 58.1 58.2	56.4 56.2 58.5 59.3 59.9 60.1	42 41 45 46 47 47	-10.
18 20 22 24 26 28	44.2b 33.5b 27.3 27.3 49.0 48.2 44.1 43.2 43.1 41.6	09 25 35 02 10		18 20 22 24 26 28	42.2 36.2 39.2 34.1 35.0 30.9	39.3 33.8 36.0 31.1 29.9 25.3	24 20 28 28 28		18 20 22 24 26 28		į		18 20 22 24 26 28	56.1 56.8 57.2 56.1 55.2 54.2	58.1 58.3 58.4 57.7 57.0 55.8	44 45 45 44 42 41	
30 32 34 36 38	48.9 48.2 48.3 48.0 44.1 43.1 36.2 35.3 34.7 33.3	02 03 10 22 25	-19.0	30 32 34 36 38 40	42.1 34.9 36.3 32.9 31.9	38.6 30.3 34.6 30.1 26.7 18.8	35 16 28 24 30 33 46	-18.3	30 32 34 36 38 40				30 32 34 36 38 40	54.1 54.9 58.0 57.6 58.3 55.0	56.3 58.2 59.9 59.1 60.1 56.8	41 43 47 46 47 42	-10.
40 42 44 46 48 50	48.0 46.7 50.8 47.2 31.1 29.1 47.8 46.2 46.9 46.1	04 01 31 04 04	-18.9	42 44 46 48 50	27.I 22.0	20. I 14. 2 16. 4 26. I 18. 8	46 55 50 38 47	-18.3	42 44 46 48 50	) - · · · · · · · · · · · · · · · · · ·			42.2 44 46 48	57.0 49.1 49.2 50.9 49.6	57.9 51.7 50.9 52.2 50.8	44 34 33 35 33	-10.2
50 52 54 56 58	47.2 46.9 34.4 33.6 42.2b 31.1 30.2	04 25 12 30		52 54 56 58 8 00	25.2 26.8 30.2 31.3 31.7	21.3 22.3 25.6 26.7 25.8	43 41 36 34 34	-18.3	52 54 56 58				50 52 54 56 58 12 00	51.2 56.0 57.3 57.7 56.1	53.0 57.9 58.9 58.5 57.2	.36 44 46 46 46 43	-9.

Correction to local mean time is — 9s. 90° torsion = 12.'84. Torsion head at oh oom read 86° and at 10h 10m read 45°. Observer—R. R. T.

Correction to local mean time is + 28s. 90° torsion = 9.'03. Torsion head at 10h 45m read 294° and at 12h 20m read 297°. Observer—R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Tues	day, March 2	9, 1904			M	agnet s	scale inv	erted	Wed	nesday	, Marc	h 30, 19	04			Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time		ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation.	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
h m	d d	0 ,	0	h m	d	d	0 ,	0	h m	d		0 /	•	h m	đ	đ	0 /	0
12 00 02	54.8 53.2 54.6 52.7	22 22 23	-4.4	14 00 02	65.8 68.5	65.3 67.8	22 02 21 57	3.0	0 00*	25.I 28.0	28.1 38.0	22 34 44	-9. <b>0</b>	2 00	28.0 29.2	33.0 34.1	22 39 41	-9.4
<b>0</b> 4 <b>0</b> 6	57.0 55.0 53.9 52.3	19 23		04 06	68.0 64.4	67.7	2I 58 22 03		04 06	26.6 24.2	32.3 34.1	38		04 06	30.I 31.2	34.2 35.2	42 43	
10 80	49.2 47.1 49.8 48.2	31		08	61.0	60.4 58.3	09 I2		08	18.1	27.1	27		08	31.0	34.7	43 46	
12	52.0a	30 25		12	58.0	57.8	13		I0 I2	17.0 21.0	32.0 31.0	30		I0 I2	33.0	37.1 36.8	46 46	
14 16	52.3 51.8 48.2 48.2	25 31	-4.6	14 16	60.6	60.0 59.6	09	-2.9	14 16	18.1	25.9 27.0	21 27	-9.3	14 16	31.7	36.2 37.0	44 47	-9.5
18 20	48.8 48.8 48.2 48.2	30 31		18 20	59. I	58.1 56.4	I2 I4		18	15.0	31.5	28		18	33.0	38.8	48	
22	46.1 45.6	34		22	57.1 55.3	54.3	18		20 22	16.1 12.0	33.I 29.5	30		20 22	37.5	43.0 43.4	54 56	
24 26	46.9 46.1 48.1 47.2	33 32		24 26	56.1	55.2 51.8	16 22		24 26	14.8	31.0 31.0	28 28		24 26	38.0 37.0	42.0 41.6	55	
28 30	47.9 47.2 48.1 47.6	32 31	-4.3	28 30.2	52.8 51.8	51.0 50.2	22 24	-2.8	- 28	20.0	34.0	.34	0 5	28	33.0	38.0	53 48 48	-9.6
32	49.3 48.3	30 28	4.3	32	50.8	50. I	25		30 32	15.3	20.8 26.3	27 23	-9.5	30 32	35.8 35.9	37.T	50	<del>-</del> 9.0
34 36	50.3 49.5 49.9 49.2	28		34 36	51.1	50.2 51.0	24		34 36	13.3	25.9 27.0	22		34 36	37.2 38.2	40.8 41.0	52 53	
38 40	49.0 48.6 50.9 49.8	29 27		38 40	52.6 53.2	51.3 52.2	22 2I		38 40	17.1 25.2	27.0 35.2	27 39		38 40	38.0 37.7	41.1 40.5	54 53	
42.4 44	49.8 49.8	27 28 28	-4.3	42	54.1 54.9	52.2 52.7	20 19	-2.8	42	26.5	35.2	40		42	30.0	42.0	55	- 0
46	51.1 50.7	28 26	74.3	44 46	54.9	52.1	19	2.0	44 46	26.0 24.0	34.3	30 36	-9.8	4A 46	38.8	41.2 41.5	54 54	-9.8
48 50	52.0 51.7 51.1 50.7	24 26		48 50	54.2 56.0	52.2 54.0	20 17		4 <b>8</b> 50	21.7	30.9 26.0	33 27		<u>48</u> 50	30.0	42.0 43.1	55 56	
52 54	50.4 50.2 50.9 50.7	27 26		52 54	55.1 55.0	54·4 54·I	17		52 54	τ8.ο	25.3 22.8	26		52	40.0	43.2	56 56	
56 58	51.5 51.0	25 26		54 56 58	55.3	55.0	17		56	17.8	21.8	21 25		54 56	40.3	42.0 42.2	56	
13 00	51.1 50.9 51.6 51.0	25	-4.0	15 00	55.3 55.1	54·9 54·9	17	-2.7	58 1 00	20.0	28.0 28.0	,30 ,37	-9.7	58 3 00	43.2	13.4 11.2	22 50 23 00	-10.0
02 04	51.9 51.2 53.5 52.6	25 22		02 04	56.1 56.0	55.3 54.8	16 16		02 04	24.2	32.0 31.0	36		02	44.8	47.6 51.0	04	
ირ 08	56.1 54.2 55.4 53.8	19 20		o6 o8	56.8 56.8	55.2 55.4	15		০র্ণ	22.0	20.8	35 32		04 06	48.2	50.2	08	
10	55.0 53.1	21		10	55.0	53.8	15		08	23.0 23.1	30.7 30.3	34		10 80	42.6 37.0	45.I 41.0	23 00 22 53	
12 14	56.1 53.9 55.5 53.1	19 20	-3.7	12 14	54.8 55.0	53.2 53.8	18	-2.8	12 14	24.I 22.0	31.1 20.0	35 32	-9.6	12 14	38. t	42.2	54 22 57	-10.1
16 18	55.3 52.7 54.0 51.2	20		16 18	55.I 54.0	53.7 53.0	17		16 18	23.5	28.0	33	9.0	16 18	41.0	48.0	23 04	
20 22	52.3 49.7 51.2 48.4	25 27		20 22	53·7 53·2	53.0 52.0	19 20		20	22.3 22.T	27.2 27.0	30		20	40.2 54.1	58.2	13	
24	51.3 49.1	26		24	53.2	52.2	20		22 24	23.6 24.1	27.8 28.2	32		22 21.4	58.0 57.3	61.6 50.0	25 23	
26 28	51.8 50.0 51.8 50.7	25 25		26 28	53.8	52.5 53.0	18		26 28	25.5	20.2	34 35		26 28	50.0 50.3	6τ.ο 6ο. Ι	25 25	
30 32	51.8 50.7 51.8 50.2	25 25	-3.5	30 32	54.2 53.7	52.9 52.3	19 19	-3.0	30	25.0	28.0	34	-9.3	.30	58. t	50.2	23	-10.3
34	52.1 51.1	24		34	53·3 53·8	52.5	19		32 3/l	27.0 27.0	30.5 30.4	37 36		32 34	54.1 54.0	κ6.0 <u></u> ξ6.0	17 17	
34 36 38	51.8 50.5 51.5 50.2	24 25		36 38	53.7	52.6 52.9	19 19		ვრ ვ <b>8</b>	27.1 30.8	31.0 34.0	37 42		36 38.2	48.0	48.8	08 06	
40 42	52.I 50.9 52.8 51.7	24 23		40 42	53·3 53·9	52.7 $53.2$	18		40.4	32.0	34.7	44		40	45.7	47.5	0.4	
44 46	52.9 51.8	22 23	-3.2	44 46	53.9	53.2 54.0	18 17	-3.0	11	30.8		42	-0.4	42	44.9		02 07	-10.4
48	53.1 52.1	22		48	54.3	53.9	17		16 18	30.0		44		46 48	45.2		03 05	
50 52	53.1 52.7 51.8 51.1	21 24		50 52	53.8	53·3 53·0	18		50	30.2	33.0	41		50	45.2	46.8	23 03	
50 52 54 56 58	55.3a 57.8 57.1	18 14		54 56	54·3 54·0	53.8 53.2	17		52 51	26.6 26.0	33·3 31·4	30 36		52 54	43.0	44.2 43.0	22 50 22 58	
58	60.1 59.4	11		58	54.0	53.3	18	_2 0	56 58	26.0	31.9	37		56	43.8	44.9	23 01	
				16 00	33.3	53.1	10	-3.0	50	20.3	32.0	37		58	45.0	46.0	02	

Correction to local mean time is -7s.  $90^{\circ}$  torsion = 16.48. Torsion head at 11h 25m read 254° and at 16h 20m read 290°. Observer—R. R. T.

Observer—J. V.

Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sc read Left	ings	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scand read	ings	East decli- nation	Temp C.
ım	d d	0 ,	•	h m	đ	d	0 ,	•	h m	d	d	0 ,	0	h m	d	d	0 /	0
00	46.8 47.3 47.8 49.0	23 05 07	-10.5	6 00 02	54.0 54.1	56.3 56.1	23 17 17		8 00	35·5 32.8	37.2 34.5	22 47 43	-10.3	10 00 02	26.6	29.6 29.1	22 34 34	-10.0
04	48.9 50.3	09		04	50.1	52.1	II		04	31.7	34·3 31.8	42		04	27.3	30.2	35	
o6 o8	48.0 49.0 44.5 46.2	07 02		06 08	46.2 43.9	49.2 47.0	06 02		o6 o8	30.3	31.8	39 43		06 08	26.7	29.3 29.0	34 33	
I0 I2	46.0 48.0 44.8 46.0	05 23 02		I0 I2	43.0 39.0	46.0 42.3	23 00 22 54		10 12	31.3	33.0 32.0	41		I0 I2	27.3 27.5	29.6 29.7	34 35	
14	40.8 44.0	22 58	-10.5	14	42.5	45.5	23 00	-10.0	14	30.3 29.2	30.7	39 37	-10.0	14	27.9	30.2	35	-10.
16 18	38.9 41.3 38.0 40.8	54 53		16 18	41.9	44.0 42.3	22 58 56		16 18	29.5	31.3 32.3	38 38		16	28.0	30.8 30.7	36 36	
20	36.9 39.2	51		20	38.0	40.2	52		20	31.3	32.6	40		20	26.3	29.7	34	
22 24	37.0 40.0 36.5 38.6	51 50		22 24	34.2 32.0	37.0 34.0	46 42		22 24 26	34.0 34.8	35.5 35.6	45 45		22 24 26	27.I 27.0	30.3	35 35	
26 28	40.2 43.0 41.0 44.0	56 22 58		26 28	28.9	32.0 32.3	38 38		26 28	31.6 33.3	32.6 34.6	41 43		26 28	27.6	30.5	35 34	
30	43.9 46.2	23 02	-10.4	30	34.2	37.I	46	-10. I	30	31.6	32.6	41	-10.0	30	26.5	29.0	33	-10.2
32 34	43.2 45.0	23 00 22 55	İ	32 34	36.8 36.0	38.9 38.2	50 49		32 34	29.2 29.2	30.3 31.3	37 38		32 34	26.3	28.7 29.3	33 34	
34 36 38	38.0 39.0	51		36 38	36.0 36.1	38.2 38.2	49 46		34 36.6 38	32.3	32.5 31.6	41		34 36 38	26.2 26.0	29.I 28.0	33 32	
40	38.5 39.0 39.6 40.0	52 53		40	32.9	38.0	51		40	31.7	32.0	39 40		40	25.6	27.6	31	
42 44	38.0 38.2 35.8 36.0	51 47	-10.3	42 44	37.0 34.0	40.2 37.0	46 42	-10.2	42 44	26.8 30.3	28.0 31.1	33 38	-10.0	42 44	25.6 25.6	27.3 28.3	3I 32	
44 46 48	34.0 35.9	46	20.3	46	31.1	34.4	32		44 46	30.3	31.3	38	1000	46 48	25.6	28.6	32	-10.
50	34.5 36.0 33.0 34.0	46 43		48 50	26.0 29.0	27.0 33.0	22 39 23 01		48 50	33.8 30.6	34.0 32.2	43 39 38		50	25.0	28.3 28.6	31 32	
52	32.0 33.0 33.2 34.0	42 44		52 54	44.8	45.1 48.0	23 05 22 50		52 54	30.8	30.9 27.6	38 36		52 54	26.6	28.6 28.0	33 32	
54 56	37.3 38.8	50		56	37.3	38.2	48		54 56	29.0	30.5	37		54 56	26.3	27.0	31	
58 00	41.1 41.8 43.1 43.9	56 22 59	-10.3	58 7 00	36.0	37·3 33·0	48 42	-10.3	58 9 00	25.2 26.8	27.2 28.5	31	-10.0	58	25.8	27.6 27.4	32	-10.
02	45.4 46.2	23 03		02	31.3	32.9 32.8	41		02	34.6	35.6 33.6	45		02 04	25.0	26.4 26.0	30 29	
04 <b>0</b> 6	48.6 49.2 51.0 51.0	08 12		04 06	32.I 35.0	36.0	41		04 06	32.0 27.9	30.6	42 36		06	24.3	25.2	28	
08 10	51.0 51.8 51.8 52.0	II <b>I</b> 2		08 10	35.9 34.1	37.0 38.1	48		08	31.3 29.3	32.9 31.6	40 38		08	24.0	25.5 24.7	28 27	
12	46.5 47.0	23 04		12	30.0	36.0	42	TO 43	12	24.7	28.0	31		12	22.7	24.7	27	10
14 16	42.8 44.0 42.0 42.6	22 59 57		14 16	30.8	36.2 35.0	43 39	-10.2	14 16	23.8	26.5 28.3	29 32		14 16	24.0	25.6 24.3	29 26	-10.
18	40.0 41.0	54		18 20	27.0 31.3	35.0 40.3	39 47		18 20	27.3 36.8	30.6 38.0	35 49	-10.0	18 20	22.7	24.I 25.3	26 28	
20 22	37.1 38.9 40.0 41.8	50 55		22	31.0	30.0	45		22	27.0	29.0	34		22	24.I	26. T	29	
24 26	36.0 38.1 32.3 33.9	49 43		24 26	21.0 24.7	28.0 27.0	29 31		<b>2</b> 4 26	26.9 28.5	29.8 31.3	34 37		24 26	24.3	26.0 24.0	29 26	
28	32.8 37.8	46		28	30.2	30.6	38	-10.5	28	28.5 25.8 24.8	20. I 28. 0	33	-10.0	28 30	18.7	22.3	22 22	
30 32	37.0 38.0 40.9 43.0	50 22 56	-10.0	30 32	32.0 31.0	37.I 35.0	44 42	-10.5	30 32	25.1	28.5	31 32	-10.0	32	15.6	23.3 19.7	17	_10.
34	43.6 44.8	23 00		34 36	32.0 30.8	36.0 34.0	44 41		34 36	27.6 27.1	30.2 29.6	35 34		34 36 38	15.6	19.0 22.7	17 23	
34 36 38	52.0 53.1 57.1 59.0	13 22		38	32.1	35.0	43	·	38	25.8	27.6	32		38	19.6	22.6	23 26	
40	61.2 63.0	28		40 42	38.2 33.8	41.2 36.0	53 45		40 <b>42</b>	25.3 28.3	27.4 30.5	31 36		40 42	22.7	24.6 24.3	20 26	
42 44	63.9 <i>b</i> 62.2 64.5	30	-10.0	44	31.2	34.1	41		44 46	27.3	30.6	35	-10.0	44 46	22.5 22.8 23.3	25.0	27 28	
14 16 18	64.0 66.8 64.1 65.1	33		46 48	32.5 37.6	$35.2 \\ 39.5$	43 51	.	48	27.9 26.5	30.3	36 34		48	25.3	28.6	32	
50	63.0 64.5	31		50 52	36.9	30.0 38.0	50 48		50 52	24.5 25.1	28.2 29.1	31 32		50 52	25.7 24.3	28.8 27.1	32 30	
52 54	61.0 62.0 57.9 59.0	27		52 <b>5</b> 4	35·3 31.8	33.2	41		54	26.5 28.6	30.0	34		54	24.0	26.8	20	
50 52 54 56 58	57.1 50.1 55.6 58.2	22 20		54 56 58	31.4 32.5	32.6 34.0	40 42		54 56 58		31.3	37		54 56 58	23.5	25.6 25.6	28 27	

Observers—J. V. and W. J. P., who alternated from 7h 48m to Observer—W. J. P. 7h 58m.

### SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

## Tabulation of magnetic declinations observed at Teplitz Bay-Continued

				1			1	'						1 1			<u> </u>	1
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scaread	ings	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation.	Temp. C.	Chr'r time	Sc read Left	_	East decli- nation	Tem:
h m	d d	0 ,	0	h m	đ	d	0 ,	0	h m	đ	d	0 ,	•	h m	d	d	0 ,	0
2 00 02 04 06 08	23.6 27.0 23.3 26.6 22.6 26.0 23.0 25.7 22.3 24.2	22 20 28 28 28 28 26	-10.5	14 00 02 04 06 08	17.0 17.7 19.0 10.6 18.5	19.0 19.7 21.0 21.0 20.0	22 17 18 20 21 10	-10.2	16 00 02 04 06 08	13.8 15.7 16.1 15.9 17.1	14.9 16.8 16.9 16.7	22 II 14 14 14 14 16	-10.0	18 00 02 04 06 08	18.8 17.6 16.7 16.0 15.9	19.2 17.9 16.9 16.7 16.3	22 18 16 15 14 14	-9.8
10 12 14 16 18	23.3 25.5 21.2 24.0 21.2 23.2 21.8 23.6 20.6 22.5	28 25 24 25 23	-10.5	10 12 14 16 18	17.7 17.3 17.3 18.3 19.3	18.9 18.6 18.9 19.6 21.0	18 17 18 19 21	-10.2	10 12 14 16 18	17.9 18.5 18.9 19.1 19.2	18.5 19.3 19.7 19.8 19.9	17 18 19 19	-10.0	10 12 14 16 18	15.8 15.8 16.2 14.9 14.7	16.4 16.8 17.2 15.9 15.8	14 14 14 12 12	-9.8
20 22 24 26 28	19.8 22.0 21.5 22.7 19.7 21.6 20.6 21.6 19.0 19.5	22 24 22 22 22	:	20 22 24 26 28	19.3 19.9 19.3 10.3 18.8	21.I 22.0 20.9 21.I 20.0	21 22 21 21 10		20 22 24 26 28	19.7 20.4 20.9 21.2 22.0	20.I 20.9 2I.I 2I.7 22.3	20 21 22 22 23		20 22.4 24 26 28	14.8 14.9 15.3 15.5 14.3	15.6 15.8 15.8 16.0 14.9	12 12 13 13	
30 32 34 36 38 40	16.6 17.6 14.6 16.7 17.7 18.8 15.6 16.6 10.5 11.5 14.6a	16 14 18 15 07 12	-10.5	30 32 34 36 38 40	18.7 18.2 17.8 17.3 18.3 16.0	20. I 10. I 18.8 18.0 19.0 16.7	10 18 18 16 18	-10.2	30 32 34 36 38 40	22.0 20.9 20.0 19.1 18.7 18.8	22.4 21.9 20.9 19.8 19.1	23 22 20 19 18 18	-9.9	30 32 34 36 38 40	14.3 13.9 13.0 13.0 12.8 13.1	14.9 14.3 13.6 13.2 13.1 13.3	11 10 09 09 08 09	-9.9
42 44 46 48 50 52 54	28.0 <i>b</i> 15.5 <i>b</i> 14.3 15.0 11.4 11.6 18.3 18.6 24.3 25.0 22.8 23.8	33 14 12 07 18 28 26	-10.5	42 44 46 48 50 52 54	17.4 16.0 15.2 16.0 14.3 14.2 14.6	17.8 16.6 16.2 16.6 14.7 14.8 15.0	16 14 14 14 12 12	-10.2	42 44 46 48 50 52 54	18.8 18.1 17.3 16.2 15.2 15.9	19.2 18.8 17.9 16.8 16.2 17.1	18 17 16 14 13 14	-9.9	42 44 46 48 50 52	13.8 13.0 14.0 13.2 13.8 10.9	14.1 13.3 14.9 16.2 16.8 13.9	10 09 11 11 12 08 08	-10.0
56 58 3 00 02 04 06	23.3 24.3 22.5 23.9 22.0 23.0 19.3 20.4 19.2 20.0 19.0 20.0	27 26 25 20 20 20	-10.3	56 58 15 00 02 04 06	15.0 15.5 16.8 17.9 12	15.6 16.0 17.5 18.5 .7b	13 14 16 17 00 08	-10.2	56 58 17 00 02 04 06	16.9 17.9 17.8 18.0 18.3 18.9	18.5 19.3 19.2 19.3 19.8 20.3	16 18 18 18 18	-9.8	54 56 58 19 00 02 04 06	14.2 14.4 17.8 15.8 15.3 13.1	16.8 17.2 20.8 19.0 17.8 15.3	12 13 18 15 14 10	-10.0
08 10 12 14 16 18	20.6 21.6 18.6 20.5 18.9 20.1 17.9 20.1 19.0 21.6 21.6 23.8 21.1 23.0	22 20 20 19 21 25 24	-10.3	08 10 12 14 16 18 20	11.3 11.9 13.0 13.3 13.6	.8b 11.0 11.6 12.3 13.2 13.7 14.2	07 06 07 08 09 10	-10.3	08 10 12 14 16 18	19.7 20.1 20.0 19.6 19.2 19.5	20.5 20.8 20.3 19.9 19.6 19.8	20 20 20 20 19 19	-9.8	08 10 12 14 16 18	13.8 17.1 14.2 13.1 12.7 11.1 13.1	15.4 18.8 16.1 14.3 13.4 12.0 14.2	16 12 10 08 06	-10.0
22 24 26 28 30 32	20.3 21.7 20.6 22.1 21.0 21.8 21.7 22.8 17.8 19.7 17.3 18.7	22 23 23 24 18	-10.2	22 24 26 28 30 32	15.3 15.0 16.5 17.3 17.2 17.7 16.6	15.7 15.0 17.2 17.7 18.0 18.0	13 12 15 16 16 17	-10.5	22 24 26 28 30 32	17.7	10.0 18.2 18.1	19 18 18 16 16	-9.8	22 24 26 28 30 32	13.8 13.9 17.1 17.3 15.4 14.0	19.0 18.9 16.9	11 16 16 13 11	-10.0
34 · 36 38 40 42 44 46	18.9 19.9 19.0 20.2 16.0 18.0 17.8 19.1 19.0 20.3 17.5 19.1 14.6 15.5	20 20 16 18 20 18	-10.2	34 36 38 40 42 44 46	19.2 19.3 19.8 17.5 16.2	19.8	15 19 19 20 16 15	-10.5	34 36 38 40 42 44 46	18.1	18.8	17 18 17 17 17 16	-9.8	34 36 38 40 42 44 46	18.1 15.2 17.8 17.4 16.3 16.8	19.1 16.3 18.9 19.2 17.3 18.0	17 13 17 17 14 15	-10.2
48 50 52 54 56 58	18.3 20.5 20.2 21.5 13.2 14.8 16.7 19.3 16.8 19.3 15.7 18.6	20 22 11 17 17		48 50 52 54 56 58	17.1 13.7 11.5 11.6 13.1	18.7	17 12 08 08 10		48 50 52 54 56 58	16.8 18.0 19.7 19.6 19.8	17.2 18.2	15 17 19 19 20		48 50 52 54 56 58	16.0 15.9 15.3 12.8	17.8 17.2 15.8 13.9 12.7	14 14 12 09 07	

Observers—W. J. P. and R. R. T., who alternated from 15h 36m to Observer—R. R. T. 15h 46m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedr	iesday, Marcl	1 30, 190	04			Magn	et scale	erect	Thur	sday, I	March	31, 1904			Ma	gnet so	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation.	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	Sc read Left	_	East decli- nation.	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp C.
h m	d d 22.2 22.8	22 23	-IO.3	h m 22 00	d 49.1	d 51.8	o ,	-II.2	h m	d 49.9	d 48.7	22 24	-14.6	h m	d 45.8	đ 45.0	° ,	-12.6
02 04 06 08	23.1b 25.3 26.8 25.2 26.8 31.6 32.3	24 29 29 22 38		02 04 06 08	52.8 57.0 51.8 49.1	55.9 59.7 54.9 51.3	17 23 15 10 18		02 04 06 08	49.8 49.5 49.1 49.1	48.8 48.3 48.0 47.4	24 24 25 25 25 26	14.0	02 04 06 08	45.8 45.9 45.5 45.9	44.9 45.2 44.9 45.1	30 29 30 29	
10 12 14 16 18	49.7 <i>a</i> 55.9 57.8 57.5 63.7 52.6 62.7 45.9 53.2	23 06 17 23 18 06	-10.4	10 12 14 16 18	54.1 57.1 55.7 51.9 54.2	56.0 59.3 57.9 54.7 56.9	23 21 15 19	-11.3	10 12 14 16 18	48.9 49.0 48.2 47.4 46.5	47.2 47.3 46.9 46.0 45.2	26 25 26 28 29	-14.2	10 12 14 16 18	45.9 46.2 46.4 46.8 47.2	45.2 45.7 46.0 46.4	29 29 29 28	-12.4
20 22 24 26	44.7 48.1 23.6 28.8 28.1 30.8 28.1 31.8	23 OI 22 29 34 35		20 22 24 26	56.2 54.3 51.0 52.0	58.2 56.4 53.1 54.3	21 18 13 15 18		20 22 24 26	45.5 45.3 44.6 44.2	44.6 44.6 44.1 43.8	30 30 31 32		20 22 24 26	47.9 49.0 48.8 48.4	46.9 47.9 47.3 47.2	27 26 25 26 26	
28 30 32 34 36	20.7 26.9 31.0 33.4 32.7 35.4 39.9 41.3	25 38 41 51	-10.5	28 30 32 34 36	54.3 55.0 54.2 55.2	56.5 56.9 55.8 56.0	18 19 18 19	-11.5	28 30 32 34 36	44.4 44.9 44.2 44.2	43.9 44.2 43.9 44.0	32 31 32 32	-13.8	28 30 32 34 36	48.0 47.8 47.1 45.9	46.9 46.7 46.2 45.1	26 27 28 29	-I2.2
30 38 40 42 44	37.9 40.3 46.2a 46.9 49.9 46.1 47.9 38.9b	22 49 23 00 04 23 02 22 49	-10.7	38 40 42	55.1 55.7 54.9 52.9 55.5	55.9 56.2 55.5 53.8 56.1	19 18 15 19	-11.7	36 38 40 42 44	44.8 45.1 46.1 44.5 44.5	44.2 44.5 44.6 43.9 44.0	31 30 30 32 32	-13.3	38 40 42	44.0 44.2 43.2 43.3 44.9	43.0 43.2 42.4 42.7 44.2	33 32 34 33 31	-I2.I
46 48 50 52	34.9 34.9 38.1 39.4 40.0 43.2 38.1 41.8	42 48 53 22 50		44 46 48 50 52	55.5 56.3 54.8 55.7 55.9 54.8	56.9 55.7 56.2 56.7	20 18 19 20		46 48 50 52	44.5 44.4 44.6 44.8	43.9 44.0	32 32 31 31	13.3	44 46 48 50 52	43.2 43.6 44.5 45.0	42.9 43.2 44.0 44.6	33 33 32 30	
54 56 58 21 00	52.9 54.7 22.7 26.1 25.4 28.4 37.0 39.0 50.2 52.2	23 10 22 26 30 22 47 23 08	-io.8	54 56 58 23 00 02	54.8 54.2 54.6 56.8 57.0	55.8 55.2 55.9 58.0 58.1	18 17 18 22 22	-11.8	54 56 58 17 00	45.1 45.2 45.4 45.8 45.8	44.7 44.3 44.8 44.9 44.9	30 31 30 30 30	-13.2	54 56 58 19 00	45.9 46.1 46.2 46.7 46.8	45.2 45.3 45.7 46.0 46.2	29 29 29 28 28	-12.0
04 06 08 10	37.9 41.7 24.2 24.9 15.2 16.0 20.9 20.9	22 50 26 12 20		04 06 08 10	56.5 57.2 57.3 57.6	56.9 57.8 57.8 57.9	20 22 22 22		04 06 08 10	45.9 45.4 45.6 45.2	45.1 44.8 44.8 44.6	29 30 30 30		04 06.4 08 10	46.8 46.7 46.2 46.2	46.0 45.8 45.7 45.9	28 28 29 20	
12 14 16 18	17.8 19.2 30.3b 22.8 23.1 20.0 20.6	17 35 24 19	-10.9	12 14 16 18 20	57.7 57.0 57.1 58.2 56.4	58.1 57.8 57.8 59.1 57.1	22 22 22 23 20	-11.9	12 14 16 18	45.0 46.1 46.9 47.1	44.3 45.2 45.9 46.1	31 20 28 28 28	-13.0	12 14 16 18	46.6 46.2 46.1 46.0	46.1 46.0 46.0 45.8	28 28 29 29	-12.0
20 22 24 26 28	13.9 15.2 19.0 20.3 20.3 22.1 20.3 21.4 20.0 20.8	10 18 21 20 20		22 24 26 28	54.7 54.1 55.1 53.1		18 17 18		20.4 22 24 26 28	47·3 47·9 48·4 49·2 49·7	47.1 48.2	26 26 26 24 24		20 22 24 26 28	45.9 45.5 45.9 45.9 44.9	45.6 45.1 45.2 45.6 44.2	29 30 29 29 31	
30 32 34 36	9.9 10.8 9.6 10.7 7.2 7.8	12 04 22 03 21 59	-11.0	30.3 32 34 36		53.8 53.2 54.1 53.8	15 14 14 15	-12.0	30 32 34 36	49.7 49.3 48.3 48.7 48.2	48.2 47.2 47.2	24 26 26 26	-12.9	30 32 34 36	45.2 45.1 45.2 45.2	44.8 44.7 44.1 44.2	30 30 31 31	-12.0
38 40 42	6.8 7.8 6.4 7.3 9.1 9.3 7.8 10.2	59 21 58 22 02 22 02	-11.1	38 40 42 44 46	51.5 52.0 53.2 51.2	52.3 53.1 54.5 52.5	13 14 16 13	-12.1	38 40 42 44 46	47.9 47.9 47.0 46.3	46.8 46.9 46.1 45.3	27 26 28 29	-12.8	38 40 42 44 46	45.8 45.8 45.7 45.0	44.9 45.2 45.2 44.6	30 29 30 30	-11.
44 46* 48 50 52	42.6 47.1 49.8 54.1 50.6 55.2 43.3 48.3	23 02 13 15 04		48 50 52	49.8 50.5 50.7 52.2	51.8 52.0 53.8	10 12 12 14		48 50 52	45.9 45.8 45.3 45.9	44.7 44.3 44.8	30 30 30 30		48 50 52	44.8 44.9 45.7 46.2	45.7	31 31 30 20	
52 54 56 58	49.0 53.4 49.6 53.7 47.8 50.8	12 13 09		54 56 58 24 00	52.2 52.2 53.8 55.3	53.9	14 14 17 19	-12.4	54 56 58	45.6 45.3 45.3		30 31 31		54 56 58 20 00	46.3 46.2 46.8 46.4	45.9	28 29 28 29	3

Correction to local mean time is + 11m 58.5s. 90° torsion = 16.68. Torsion head at oh oom read 278° and at 24h 20m read 304°. Observer—R. R. T.

Correction to local mean time is + 43.5s.

Torsion head at 15h 30m read 303° and at 20h 15m read the same.

Observer—R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Frida	y, April 1, 19	904				Magne	et scale	erect	Sunda	ау, Ар	ril 3, 19	904			M	agnet s	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sc read Left	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation.	Temp. C.	Chr'r time	Sc read Left		East decli- nation	Temp C.
h ın	d d	• ,	0	h m	d	đ	. ,	0	h m	ď	đ	· ,	0	h m	d	d	0 ,	0
0 00*	42.9 43.2 34.8 35.9	2I 36 24	-6.3	22 00 02	48.3 29.1	64.4 47.2	22 25 21 57	~4.3	0 00*	57.8 47.9	51.7 44.8	22 16 29	-8.9	2 00 02	17.9	9.8 12.1	23 32 28	-5.8
04 06	26.9 28.8 32.0b	12		04	40.4	52.9 41.3	22 IO 21 49		04 06	47.7	43.I	31 36		04 06	28.9	21.0	14	
o8	26.7 28.2	11		08	13.2	27.I	28		08	31.9	39·3 23.2	22 59		о8	35.8	28.1	05 23 03	
10 12*	33.0 33.4 42.6 77.9	2I 20 22 26		10 12	8.9 7.3	21.3 19.6	21 18		10*	60.6	.oa 48.8	24 14 22 58		IO I2	37·5 37·1	30.6 29.1	00	
14* 17*5	8.7 52.8 32.7 56.9	22 IO 23 40	-6.o	14 16	8.0	19.3 59.0	21 18	-4.2	14 16*	73.0 30.7	57.0 18.2	42 23	-8.6	14 16	36.9	29.7 31.7	23 OI 22 58	-5.4
18 20*4	25.1 64.5 69.1 <i>a</i>	23 40 21 45		18.4 20		58.4 57.3	17		18	22.2	11.0 11.3	35 34		18 20	41.1	34.8 35.8	54 53	
23*	46.2 57.3	22 2I		22	42.1	56. <b>0</b>	14		22*	48.1	32.9	41		22	38.2	32.8	22 57	
25 <b>*</b> 27 <b>*</b>	10.7 69.6 15.6 49.8	22 58 19 51		24	44.0 44.1	56.9 55.3	15		24 26	45.9 27.9	31.9 16.9	22 43		24 26	35.1 33.6	28.3 28.2	23 <b>0</b> 3 <b>0</b> 5	
29*7 31*8	16.2 22.2 12.8 65.0	23 2I 22 I3	-5.7	28 30	39.1	52.9 49.4	o6	-4.1	28* 30*	54·7 49·3	48.7 25.3	23 56	-7.7	28 30	33.9	29.2 32.4	23 04 22 58	-5.3
32 34*	Lost 24.6 63.2	21 37		32 34	38.2	48.8 48.9	05 06		32*	71.0	54·7 35·9	24 29 58		32	34.9 36.2	30.8 32.1	23 02 22 60	
36 38*2	3T.3 66.T	2I 45 22 58		36 38	39.1	48.4 48.7	05 06		34 36 38*	65	.0a .0b	26		34 36 38	37.2 39.8	32.7	58	
41*б	18.9 44.8	21 38		40	39.2	47.3	05		40*	68.2	31.9	24 05 25 18		40	37.8	35.9 34.0	54 57	
42 44	30.I 49.9 II.9 32.8	21 23	-5.3	42 44	40.I 39.7	47.6 46.8	06 05	-4.0	43* 44.5	59.2	46.1 39.6	22 33	-7.0	42 44 46	40.0	36.4 37.2	53 52	-5.3
46*4 48*	20.7 56.0 42.9 72.6	22 54 23 55		46 48	40.2	47·5 50.9	06 12		46 48	50.0 30.9	35.I 15.I	22 50 23 20		46 48	36.1	33.1 31.6	22 59 23 02	
50.3 52*7	51.3 70.1	24 00 22 27		50 52	44.3 44.8 43.3	50.9 49.2	12 09		50 52*	24.3	6.0 23.0	33 56		50 52	34·3 36.8 35·3	33.7 33.0	22 58 23 00	
54	11.2 30.2	21 37		54	42.8	50.0	10		54 56	47.2	38.0	39		54 56	36.1 34.8	34.2	22 58 23 01	
56 58	43.6 71.9 16.9 49.8	22 35 2I 57		56 58	41.9	48.2	08		58	70.1 69.1	58.1 55.0	05		58	32.8	32.2 30.2	04	
I 00* 02.1	28.1 61.1	23 II 23 44	-5.0	23 00 02	42.8	48.5 45.2	08 03	-4.0	I 00 02	50.8	41.3 51.7	23 19	-6.7	3 00	32.0	30.I 23.2	04 15	-5.1
03*8 o6	3 44.6 73.8 51.1 73.1	22 I2 22 I6		04 06	42.1 37.6	47.0 42.8	07 22 00		04 06	74.8 74.7	67.2 64.9	22 54 56		04 06	23.8	21.6 24.2	18	
08	32.7 60.2	21 52		08 10	36.7 39.5	39.7 42.9	2I 57 22 02		08 10*	74.6	65.2	56		08	23.2	21.8	18 20	
10 12*	27.0 49.0 8.6 40.7	22 35		12	44.7	49.I	10		12.5	33.2		44 22 50		12	20.9	19.2	22	
14 16	18.0 46.7	47 37	-4.9	14 16	55.9 73.7	57·7 76·9	26 22 55	-4.0	14 16	20.6	8.2 14.2	23 00	-6.3	14 16	23.2 25.0	21.6 23.5	18 15 16	
18* 20	19.2 58.8 17.1 52.9	28 22		18*	58.1	61.9 70.2	24 08 24 17		18 20	42.5 33.4	27.0 19.0	38 22 51		18 20	24.8	23.2 23.3	15	
22 24*	9.6 47.2	22 II 2I 54		22* 24	45.5 47.0	65.4 71.0	22 58 23 03		22 24	24.4 34.7	10.9	23 04 22 48		22 24	24.2		16	
26	22.1 56.8	59		26 28*	56.3	74.8	23 I4 24 09		26	35.9	22.7	46		26 28	27.0	25.8	12 08	
28 30	19.6 51.7	53 48	-4.7	31*	63.0 50.5	67.1	54	-3.8	28 30.3		40.0	25 21		30	29.1	28.5	08	<b>−5.</b> c
32 34	16.7 47.4 24.2 53.3	47 58		32 34	34·3 29. I		24 18		32 34	44.I 35.8	34.6 27.1	30 22 43	]	32 34	29.8	29.2	07 07	
36 38	23.2 49.9 28.0 52.9	2I 54 22 00		36 38*	7.4 24.8	18.2 38.2	23 4I 23 09		36 38*3	12.0	7.2	23 I6 23 II		34 36 38	31.0	28.6 30.8	06	1.
40	32.6 56.7	07		40*2	15.2	37·5 37·9	22 29 30	-3.7	40*	52.9	47.8	22 34		40	32.0	30.1	04	
42 44	33.I 55.9 31.8 52.0	07	1 .	42 44*	46.7	64.4	22 06	3.7	42 44 46	57·4 58.7	49.2	31 29	-5.9	42 44	30.1 27.1	25.4	12	-4.9
46 48	39.8 59.1 42.9 61.8	14		46* 48*	49.1 62.9	73.8	22 48		46 48	45·3 40.2		22 50 23 01		46 48	28.9		09	
50 52	44.2 62.1 48.1 66.7	20 22 27		50 52	47.9	67.I 35.8	23 28		50 52		14.1	24 33		50 52	27.9 28.0	25.7 25.9	11	
54	26.9 45.6	21 54		54 56*	70.I 25.6	78.2	23 54		54 56 58	25.0	15.8	21 18		54 56	26.0 25.2	23.9	14	.
54 56 58	21.2 41.8 33.2 51.7			58*	49.2	61.3 47.2	25 18		58	17.2		33		58	24.8	23.0	16	· ·

Correction to local mean time is - 7s.

Torsion head at 19h 30m read 332° and at 24h 00m read the same. Observer—R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Sunda	ıy, Apr	11 3, 1	904				Magn	et scale	erect	Mond	ay, A <sub>l</sub>	pril 4,	1904			Ma	gnet s	cale inv	erted
hr'r ime	Sca readi	ings	East decli- nation	Temp. C.	Chr'r time	Sc read Left		East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp C.
m	d d	d	0 ,	0	h m	d	d	0 ,	٥	h m	d	đ	0 ,		h m	d	d	0 ,	•
00*6 02	48.1 48.9	49.6	23 38 40	-4.4	6 00	49.0 53.2	55.8 61.2	24 07 14	-3.3	8 00*	56.0 61.2	53·7 55·3	23 43 38	-8.7	IO 00 02	35.0 38.2	34.I 35.8	23 25 2I	-4.4
04 06	47.8 49.2	50.8	39 41		04 06	48.5	55.9 67.2	07 25		04 06	50.2 52.3	47.1 48.1	53 51		06	45.1	43.I 4I.0	10 14	
08 10	48.2 47.6	51.1 50.6	39		08 10	63.6	74.9 69.9	33 28		08	45.9 54.1	43.2 50.6	59 47		08 10	46.I 47.I	44·3 43·9	08 23 08	
12 14	50.3	53·9 54·9	44 46	-4.3	12 14	57·3 57.8	64.1 65.9	20 24 22	-3.3	12.4 14	61.9	60.3 57.2	32 36	-8.o	12 14	52.8 52.0	49.9 47.8	22 58 23 0I	-4.0
18 18	50.8 55.2	54.2 58.3	44 51		16 18	37.9 28.1	45.2 36.0	23 50		16 18	53.2 66.7	49.9 62.0	48 28		16	52.5 57.4	49.5 53.0	22 59 52	
20 22	56.2 59.1	59.2 61.7	52 57		20 22	22.9 27.2	30.5 32.7	26 32		20 22	63.1 65.2	59.9 59.2	33 32		20 22	55.1 57.2	51.7 55.0	55 51	
24 25	61.0 69.7	62.8 70.8	23 59 24 I2		24 26	37.2 29.0	41.0 33.9	46 34		24 26*	68.4 53.9	61.0 46.1	28 01		24 26	56.3 57.7	53.8 55.6	53 50	
28 30	73.6 41.8	75.2 46.9	24 I9 23 3I	-4.2	28 36	28.9 33.1	33·3 38·0	34 40	-3.3	28 30	45·4 44·2	38.9 36.9	13 16	-7.2	28 30	54.0	52.9	55 59	-3.9
32 34	49.2 47.3	54.2 52.8	43 40		32 34 36.7	27.0 20.3	30.8 24.3	30 20		32 34	43·7 51.8	37·5 45·I	03		32 34 36	51.8	50.6 48.3	22 59 23 03	
36 38	38.6 38.9	46.4 44.3	29 27		36.7 38	22.0	25.9 25.1	22 21		34 36 38	45.9 44.9	39·3 39·4	I2 I3		38	53.8 59.1	52.8 58.1	22 55 47	
40 42	38.7 38.3	44.8 46.2	27 28		40 42	27.9 35.2	33·3 37·9	33 42		40 42	36.7 42.3	33.I 37.8	24 16		40 42	63.7	66.7	40 34	
44 46	38.2 31.1	44.6 39.2	27 17	-4.0	44 46 48	16.3	19.6 23.8	13 21	-3.3	44 46 48	38.3 33.2	35.6 28.3	2I 3I	-6.7	44 46 48	67.3 71.0	65.2 68.4	35 30	-3.9
48 50	35·9 37·5	44.8 46.9	25 28		48 50*	19.1 27.7	21.8 36.2	23 I7 22 53		48 50	34·3 33·2	30.2 29.8	28 30		50	69.8 69.9	68.1 69.0	31 30	
52	35.6 36.7	44.I 42.8	24 24		52	39.I 47.2	43.8 53.3	23 08 23 22		52	31.8 36.3	27.3 33.3	33 24		52 54 56	71.0	69.8	29 25	
54 56 58	42.8 38.7	50.5 46.8	35 29		54 56 58	24.2 17.8	27.8	22 43 22 34		54 56 58	41.2 34.3	35·5 31.8	19 27		56 58	69.8 70.	69 <b>.3</b> .8a	30 28	
00 02	37.2 46.2	45.7 52.9	27 39	-4.0	7 00	45.8 43.3	47·3 48.0	23 16	-3.2	9 00 02	48.1 55.8	44.I	23 07 22 54	-6.0	11 00* 02	40.9 38.8	31.I 29.3	14	-3.2
04 06	51.7 59.4	59.8 67.1	23 49 24 0I		04 06	49.0 55.6	53.0	23 32		04 06	62.6 52.2	59.8 50.0	43 59		04 06	35·3 36·4	27.9 28.3	2I 20	
08 10	62.3	69.2 68.9	05 06		08	58.7 58.2	62.1	37 36		08 10	56.3 58.8	53.I 55.3	53 22 50		08 10	36.2 38.8	28. I 28. I	20 18	
12	70. I 66. I	75.8 72.1	16 24 I0	-4.0	12 14	58.6	60.9	36 30	-3.2	13 14	49.3 54.2	48.2 50.0	23 03 22 57	-5.8	I2 I4	35.I 32.9	25.4 21.7	23 27	-3
14 16	53.1	60.7	23 5I 36	4.0	16 18	53.5 49.8 57.6	52.8 63.9	23 38		16 18	62.9 67.0	60.9 64.3	42 36		16 18	29.9	20.0 17.7	31 34	
18 20	43.I 37.7	50.9	26 16		20 22	52.8	52.8	26 09		20 22	62.3 53.3	61.9	42 58		20 22	22.0	12.8 12.0	43 45	1
22 24.6	31.8 27.2	37.8 32.7	09		24 26	54.6 47.1	59.8	32 18		24.6 26		54.4	51 22 58		24 26	22.2		43	1
26 28	30.3	40.8 36.2	14 22	-3.8	28	53.9	55.2	28 46	-3.I	28 30	51.8	49.7 48.7 44.9	23 00 06	-5.2	28 30	18.9	11.3	46 40	
30 32	25.I 29.0	33.2	06 11	-3.6	30 32	55-3	62.2	35	3,1	32	49.7 52.2	46.8	23 03 22 59	3.2	32 34	19.8 16.3	13.3	44 48 36	
34 36 38	35.1 48.1	38.4 51.2	19 40		34 36	42.2 59.3	62.4	13 38		34 36 38	49.6	46.5	23 04		36 38	23.4	20.0	36 36	
40	59.7	58.8 66.0	23 50 24 00		38 40	62.9 36.0	37.2	45		40	43.0 42.1 43.4	40.2	14		40 42	23.4 26.9	21.1	35	
42	63.6 68.7	67.2 72.5	04 24 I3	-3.7	42 44	38.1 44.7	44.5 50.0	17	-3.0	42 44	42.2	39.9	13 15 16	-5.0	44 46	24.I 20.4		34 40	-3.
44 46* 48*	49.2 23.I	49.7 24.0	25 I4 23 22		44 46 48	67.2 58.3	59.9	52 35		44 46 48	40.9 38.9	37.3	19		48	24.9 26.2	23.9	32	:
50.6	4I.I	48.1 53.2	23 55 24 02		50 52	56.3 50.2	53.7	34 24		50 52	39.3 39.9 37.6	38.0 38.0	18		50 52	23.8	25.8 23.6	33	
53 54 56 58	50.0 46.2		07 01		54 56 58	48.4	51.8 58.2	21 27		54 56 58	37.6	36.1			54 56	22.8 22.1	19.3	38	3
58		54.1	04		58 8 00	47.2 49.8	52.9 55.8	21 26	-3.0	58	35.0	34.3	25	-4.4	58 12 00	24.3 25.7	19.1 21.1		1 -3

Correction to local mean time is + 64s. Torsion head at oh oom read 352° and at 9h oom read the same. Observer—R. R. T. Correction to local mean time is — Im 20.5s. 90° torsjon = 16.'00. Torsion head at 8h 35m read 355° and at 12h 25m read 360°. Observer—R. R. T.

Chr'r	Scale readings	East decli-	Temp.	Chr'r	Sca read		East decli-	Тетр.	Chr'r		ale lings	East decli-	Temp.	Chr'r	Sc	ale lings	East decli-	Tem
time	Left Right	nation,	C.	time	Left	_	nation	C.	time		Right	nation	C.	time		Right	nation	C.
h m	d d	0 /	0	h m	d	d	0 /		h m	d	d	0 ,	•	h m	d	đ	. ,	٥
2 00 02	51.0 53.9 47.9 50.9	22 40 35	-5.1	14 00 02	47.2 47.3	49.3 49.9	22 35 35	~4.0	0 00*	57·5 59·9	56.7 57.0	22 20 18		2 00	31.0	30.9 29.8	23 OI 02	-10.4
04 06	47.1 49.8 47.8 50.8	33 35	·	04 06	48.0	50.0 51.4	36 38		04 06	59.0 58.5	56.0 56.9	20 19		04 06	31.1 31.2	30.0 30.1	02 02	
80	48.6 51.7	36		08	50.8	52.3	40		08	58.9	54.9	21		o8	31.0	30.0	23 02	
10 12	48.3 51.1 47.2 49.7	35 33		I0 I2	50.7 48.6	52.9 50.1	40 36		I0 I2	58.4 55.0	54.0 50.0	22 27		10 12	32.5	32.0 32.0	22 59 23 00	
14 16	44.0 47.7 43.8 46.3	30 28	-5.0	14 16	48.0 47.8	49.8 49.5	36 35	-4.0	14	49.4	45.3	36	-11.9	14 16	30.3	30.3	າ2 02	-10.1
18	46.1 48.7	32		18	47.0	48.9	34		16	46.3 50.2	51.0 43.8	34 36		18	30.5	30.0 30.8	23 00	
20 22	49.5 52.1 50.3 52.8	37 38		20 22	48.1	49.6 49.3	35 35		20 22	49·4 53·0	43·5 46·3	37 32		20 22	33.2	32.0 31.1	22 59 23 00	
24 26	48.0 49.2	34		24 26	48.1	49.2	35		24	50.0	43.3	37		24	33.5	32.0	22 58 58	
28 28	44.2 46.9 50.9 53.3	29 40		28	48.9	50.0	37 36		26 2 <b>8</b>		45.0 ost	34	1	26 28	34.0	32.8 33.0	55 57 22 58	
30 32	48.3 51.2 45.3 48.1	36 31	-4.7	30 32	47.2 46.5	48.8 47.2	34 32	-3.9	30 32	48.2	47.0 46.8	35 34	-10.8	30 32	33.I 30.4	32.8	22 58 23 02	
34	49.1 51.3	36		34	46.7 46.8	47.7	33		34 36	49.4	47.0	34		34	28.0	27.0	07 08	
36 38	53.2 56.0 50.4 53.3	43 39 38		<b>3</b> 6 38	43.9	47·7 45·1	33 29		36 38	45.8 45.4	44.7 43.4	39		36 38	27.0 25.8	26.8 25.0	10	
40 42	50.0 52.3 48.8 51.2	38 36		40 42	44.9	45.8 46.4	30 31		40	45.8	45.0	39 42		40 42	25.0 25.2	24.0 24.9	11	
44 46	49.1 51.4	37	-4.4	44	44.2	45.0	29 28	-3.9	42 44 46	44.1 43.8	43.0 42.2	42	-10.9	44	29.2	28.8	04	-10.0
40 48	51.1 53.0 49.3 51.3	40 37		46 48	43.2 42.5	44.7 43.6	27		46 48	46.9		39 35		46 48	31.2	31.I 31.0	10 10	
50 52	49.7 50.7 48.0 49.1	<b>3</b> 6		50 52	42.I 4I.2	43.I 42.4	26 25		50 52	48.2 46.3	46.0 44.0	36 39		50 52	31.0	30.0 31.0	02 00	
54	49.2 50.3	36		54 56	40.2	42.2	24		54	46.5	44.6	38		54	32.5	31.0	23 00	
56 58	48.I 49.3 44.8 46.8	34		58	40.9	41.4 42.2	24 24		56 58	45.2 44.0		4I 42		56 58	33.2	32.I 30.I	22 59 23 02	
3 00	45.0 46.3 46.0 47.8	30 32	-4.2	15 00 02	41.9	43.1 43.4	26 26	-3.9	100	43.0	40.5	44	-10.9	3 00 02	29.2 27.1	28.5 26.9	05 07	-10.0
04	46.1 47.1	31		04	42.9	43.9	28		02 04		.8b	44 50		04	28.0	27.I	07	
06 08	47.2 48.0	33 28		06 08	44.0 45.1	45.8 47.2	30 32		06 08	39.0 36.9		50 52		06 08	26.9 25.0	26.0 24.8	08	
10 12	41.1 42.2 45.1 45.9	23 30		I0 I2	44.6 45.8	46.6 47.5	31 32		10	36.0 30.2	34.I	22 55 23 04		I0 I2		23.7 .0a	12 12	
14	45.1 45.9	30	-4.0	14	45.9	47.7	33	-3.9	12 14	28.8	26.2	07	-10.8	14	26.0	25.9	09	-10.0
16 18	42.2 43.2 43.9 45.I	25 28		16 18	44.3	45·3 44.8	30 29		16	27.0 24.I	24.0 19.0	11		16 18	26.9 26.0		09	
20	45.1 46.7	30		20 22	42.5	43.7 43.1	27 26		20	14	.5b	27 20		20 22	25.0 25.0	24.8	11	
22 24	45.5 47.3 46.8 48.2	33		24	43.0	44.9	28 28		22 24	19.2 28.9	27.8	05		24	24.5	23.7	12	
26 28	46.8 48.8 46.9 48.2	33		26 28	42.8	44.0 44.2	28		26 28	30.9 34.7	29.9 34.5	23 02 22 56		26 28	25.9 25.4		10	
30	47.0 48.4	33 31	-4.0	30 32	43.I 44.8	44.2 45.9	28 31	-3.9	30	38.1	37.6	50 60	-10.7	30 32	25.0 24.8	24.I	11	-10.0
32 34	46.0 47.3 46.8 47.6	32		34 36	44.0	45. I	30		32 34	32.9 36.0	31.0 34.1	55		34	24.8 26.7	24.2	11	
36 38	47.4 47.9 46.1 46.9	32 31		36	45.I 47.I	46.0 4 <b>7.</b> 9	31		36 38	33.0		22 58		36 38	20.7 27.8	26.2 27.0	08	
40	46.8 47.3	31		40	47.7 48.2		35 36		40	31.9	30.2	23 01		40 42	28.0 27.0	26.8	07 09	
42 44	47.0 47.9 48.9 49.3	33 35	-4.0	42 44	49.1	49.6	37	-3.9	42 44	35.0 34.6	32.7		-10.6	44	27.0	25.5	09	-10.0
46 48	47.2 48.1 48.2 49.2	33		46 48	50.8		40 39		44 46 48	33.3	32.0 35.8	59 54		46 48	30.0	27.9 29.0	04	
50	49.8 51.1	35 38		50	49.2	50.5	38		50	37.3	35.0	53		50	29.5		05 08	
52	50.3 51.9 49.3 51.0	39		52 54	49.I 48.2		38 36		52 54	33.9 29.6	28.5	22 58		52 54	27.9	25.6	80	
54 56 58	48.7 50.3	36		56 58	47.3	48.5	35 36		50 52 54 56 58	30.9	29.8 27.9	02 05		54 56 58	30.0	28.2 34.5	23 04 22 53	
50	48.2 50.2	36		16 00	47·9 47·7	49.0 48.7	36	-3.9	,50	20.7	27.9	. 53		5-		01.0		

Correction to local mean time is — 1m 31.5s. 90° torsion = 13.78.

Torsion head at 11h 20m read 352° and at 16h 20m read 331°.

Observer-R. R. T.

Observer-J. V.

Wedn	esday, April	6, 1904	,		Magnet	scale inve	rted	Wedn	nesday, Apri	l 6, 1904			Magnet s	cale inv	erted
hr'r ime	Scale readings Left Right	East declination	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Гетр. С.	Chr'r time	Scale readings Left Right	East decli- nation	Temr C.
m	d d	0 /	0	h m	d d	0,	0	h m	d d	0 ,	•	h m	d d	0 ,	0
00 02	38.0 35.5 33.2 32.8	22 52 22 58	-10.0	6 00	35.9 24.8 40.8 30.9	24 3I 22	-9.9	8 00	51.1 46.1 51.0 47.6		-10.0	10 00 02	59.6 58.8 60.3 59.7	22 45 44	-9.2
04	24.5 23.8	23 12		04	54.0 44.2	02		04	54.0 49.8	22 56		04	61.0 59.9	43	
06.4 08	25.0 <i>b</i> 24.0 23.1	13		06	50.2 42.1 55.0 46.0	24 <b>0</b> 6 23 59		06 08	58.0 54.6 55.4 52.3	50 54		06 08	61.8 61.0	42	
10	21.0 20.0	18		10	55.2 49.0	57		10	56.0 52.5	53		I0 I2	60.5 59.9	44	
12 'I4	19.8a 24.2 23.8	19 12	-10.0	I2 I4	58.0 52.0 52.1 46.9	23 52 24 OI	-9.9	I2 I4	56.5 53.3	52	-9.8	14	60.0 59.4	44 44	-9.2
16 18	27.1 26.0 27.0 26.0	80		16 18	52.8 46.1 51.0 46.0	0I 24 02		16 18	58.2 55.4 59.3 56.7			16 18	59.3 58.5	46 45	
20	21.1 21.0	17		20	61.1 54.2	23 48		20	59.4 57.2	46		20	61.3 61.0	42	
22 24	18.0 17.0 16.9 16.0	22		22 24	66.1 61.2 67.1 60.1	39 39		22 24	61.9 59.9	42		22 24	62.4 61.6 Lost	41	
26	23.1 22.0	14		26	68.1 62.0	37		26	61.6 59.0	43		26	63.5 63.0	39	
28 30	26.1 25.8 24.5 23.1	12	-10.0	28 30	68.1 63.0   65.0 61.0	36 40	-10.0	28 30	59.0 58.2 59.0 57.8	46	-9.6	28 30	63.6 62.3	39 40	-9.1
32	20.0 18.7	20		32	63.0 59.5	42		32	58.5 56.3	48	,	32	61.6 61.1	42 42	
34 36	17.0 I5.5 14.7 I3.0	24 28		34 36	70.0 66.7	32 31		34 36	57.0 54.8 57.3 55.6	50		34 36	61.8 61.1	42	
38	15.0 13.2	28 26		38	65.9 63.8			38	60.6 58.7			38 40	62.6 62.0	40 41	
40 42	18.0 11.8 12.0 11.6	31	ŀ	40 42	73.7 70.0	37 26		40 42	57.6 55.3 59.0 56.9	47		42	61.8 61.2	41	
44	7.2 6.0		-9.9	44 46*	77.8 75.0 46.2 35.1	19		44·3 46	59.4 57.6 57.0 55.1		-9.5	44	61.2 60.6	42 41	-9.0
46 48.4	10.1 9.0 14.2 13.2	35 28		48	47.1 39.0	IO		48	56.3 54.5	51		46 48	62.4 61.9	40	
50.5		19		50 52	49.0 41.8 48.0 40.2	07		50 52	58.1 56.4 57.3 55.6			50 52	62.2 61.5 63.3 62.8	41 39	1
52 54	21.0 19.9	18		54	47.0 40.9	09		54	57.5 56.2	49		54 56	54.6 53.6	53 38	
56 58	20.6 20.2 19.6 19.6	18		56 58	43.2 37.8 32.1 26.2	14 32		56 58	56.2 55.2 56.0 54.8	51 51		58	64.3 63.3 64.0 63.2	38	
90	15.9b	25	-10.0	7 00	26.0 22.0	40	-10.0	9 00	56.2 55.2	50	-9.5	11 00	63.3 62.3 62.6 61.8	39	-9.0
02 04	14.0 12.5 13.1 12.8	29 30		02 04	31.0 28.7 47.0 41.0			02 04	57.8 56.3 59.0 57.3		,	02	63.0 62.7	40 29	
<b>o</b> 6	12.6 12.1	30		06 08	44.8 38.0			<b>o</b> 6	57-4 55-2	50		06 08	60.7 60.5	43	
08 10	13.2 12.2 10.6 9.8	30		10	44.0 38.0 38.9 31.9	22		08	56.6 54.6	51 47		10	61.0 60.1	43 43	
12	8.0 7.0	38	70.0	12	37.0 30.0		-10.0	12	59.9 57.2 55.8 54.3	46	-9.5	I2 I4	58.6 57.8 59.0 58.3	47 46	-9.0
14 16	8.0 9.0	36	-10.0	14 16	54.9 47.9 42.0 34.0	-0	10.0	14 16	56.8 55.1	50	9.5	16	58.9 58.6	46	
18	8.0 6.7	38 38		18 20	39.0 30.0 45.1 37.4			18	57.4 56.6 58.3 57.1			18 20	60.9 60.9 63.8a	42 38	
20* 22	35.1 26.8 35.0 26.1	39		22	40.1 42.8	06	,	22	59.6 58.6	6 45		22	64.2 64.0	37	
24	36.2 27.2	. 37		24 26	52.0 46.1 58.0 51.9			24 26	58.8 57.8 58.2 57.2			24 26	63.3 63.1	39 39	1
26 28	38.1 31.0 37.9 30.2	. 33		28	57.1 51.1	22 53		28	60.5 59.	5   44		28	63.3 62.9		
30	33.9 27.0	39	-9.9	30 32	52.0 46.0 52.1 46.5	23 OI 23 OI	-10.0	30 32	60.6 59.5 60.1 58.6	44 45	-9.4	30 32	65.6 65.1 65.9 65.0		-8.
32 34	30.0 22.0 25.9 20.0	50		34	60.0 53.5	22 49		34	59.9 58.8	3 45		34	65.3 64.6		
34 36 38	26.0 20.2	50. 52		34 36 38	62.0 58.0 63.9 59.9	44 41		36 38	59.2 58.4	) 44 1 46		36 38	67.3 66.2 66.8 65.8	33 34	
38 40	24.3 I9.2 28.0 22.5	47		40	65.0 61.5	39		40	58.6 57.8	3   47		40	67.0 65.5	34	.
42	25.2 30.2	43 46	-9.9	42 44	65.5 59.9	40 37	-10.1	42 44	58.7 58. 58.9 58.	3 46 3 46	-9.3	42 44	63.0 62.1 64.6 63.6	40 37	-8.
44 46	28.0 23.4 22.0 18.0	55	7'7	44 46	64.0 59.6	41		44 46 48	59.3 58.6	0.   40		46 48	64.3a 68.6a	37	7
48.5	22.0 16.0	57		48 50	62.8 58.0 57.3 52.8			48 50	59.0 58.5 59.7 59.			50	69.1 68.6		
50 52	21.9 19.1 18.2 16.8	23 59		52	57.0 53.0	52		52	60.6 60.	3. 43	ŀ	52	68.2 67.8	31	[ ]
52 54* 56 58	39.0 34.9	24, 21		54 56	55.0 50.2 51.8 47.2	22 55 23 00		54 56 58	60.3 60.0			54 56	70.6 70.2 71.0 70.6	27	
56	33.0 25.5 30.1 22.2	33 38		50 58	49.9 46.0	03		58	59.6 58.			58	69.6 69.0		

Observers—J. V. and W. J. P., who alternated from 7h 56m to Observer—W. J. P. 8h ozm.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

	l	-		1				l	1		1		1	1 1	1	Ī			1
Chr'r time	Sca readi Left	ings	. East decli- nation	Temp. C.	Clır'r time	Scaread	ings	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sc read Left	ings	East decli- nation	Tem C.
h m	d	d	0 ,	0	h m	d	d	· ,	0	h m	d	d	· ,	•	h m	d	d	۰,	0
2 00 02	68.0 67.3	67.4 66.5	22 32 33	-8.6	14 00 02	63.1 66.0	58.6 61.6	22 10	-8.o	16 00 02	20.6	19.3 25.3	22 32 23	-7.8	18 00	26.1 25.8	25.I 24.4	22 23 23	-7.2
04 06	70.0 70.6	69.6 70.2	33 28		04 06	67.6 63.1	63.3 59.9	03		04 06	26.4	25.I 23.5	22 24		04 06	25.3 24.7	24.I 23.I	24 25	
80	70.0	69.7	27 28	!	o8	60.1	56.9	14		o8	24.7	22.9	25		08	23.8	22.I 20.8	27	
10 12	70.0 68.3	69.5 68.1	29 31		10 12	56.0 55.1	52.3 $51.8$	21 22		IO I2	24.3 26.9	23.6 24.3	25 23 08		12	21.9	20.6	29 30	
14 16.3	69.9 71.8	69.5 71.5	29 26	-8.4	14 16	61.3	59.1 61.6	06	-7.9	14 16	36.7 36.2	33.8 33.3	08 08	-7.4	14 16	21.1	19.9 19.3	3I 3I	-7.1
18	69.9	69.3	29		18 20	66.1	62.2	22 05		18 20	28.7	27.0 22.8	19		18 20	19.8	18.7 18.3	33	
20 22	69.7 71.6	69.3 71.3	29 26		22*	73.0 51.0	70.0 45.2	21 53 47		22	25.0 25.2	22.2	25 26		22	19.1	18.1	33 34	
24 26	71.4	71.2 72.5	26 24		24 26	50.0 45.0	49.3 38.3	2I 58		24 26	24.I 22.2	20.8 19.1	28 30		24 26	18.8	17.9 17.2	34 35	
28 30	74.8	73.6 71.6	22 25	-8.2	28 30	32.2 30.7	25.3 24.7	22 18	-7.8	28 30	24.8	21.8 19.1	26 32	-7.3	28 30	18.2	17.3 18.0	35 34	-7.I
32	73.1	72.6	24	0.2	32	31.0	26.0	19 18 16	/	32	14.9 18.2	13.1	41	/ 10	32	19.9	19.0	32	,
34 36*	74.1 63.0	73·7 58.2	22 II		34 36	32.5 32.0	27.3 36.5	22 09		34 36 38	23.9	23.0	35 26		34 36	20.5	19.4	32 31	
38 40	66.6 64.0	63.0 58.8	04		38 40	47·3 45.6	41.3 40.8	2I 53 2I 55		38 40	24.8 25.2	23.8 23.2	25 25		38 40	21.3	20.9	30 30	
42	55.0 56.5	48.6 49.5	24 22	-8.1	42 44	38.2 38.8	33·5 35·0	22 06 05		42	21.3	20.I 2I.2	30 29	-7.3	42	20.8	20.0 20.I	31 31	-7.1
44 46	54.3	48.3	25	0.1	46	34.6	28.4	13	-7.8	44 46 48	23.3	21.8	27 28	7.3	44 46 48	20.9	20.4	30	/••
48 50	55.2 50.6	49.5 45.6	24 30		48 50	24.0 21.6	19.3 16.6	29 33		50	22.5	22.0 22.0	28		50	20.9	20.3 20.1	30 31	
52	53.9 58.5	49·3 53·9	25 18		52 54	21.2 22.6	16.2 18.0	33 31		52 54	19.0	18.7 16.1	33 37		52 54	19.9	19.5	32 33	
54 56 58	60.0	56.5	14		54 56 58	21.6 24.3	17.0 20.0	32 28		54 56 58	17.9 18.2	17.9 17.9	35		56 58	18.3	18.0 17.6	34	
3 00	59.0	53.6 56.0	17 15	-8.2	15 00	23.6	19.7	29	-7.5	17 00	18.2	18.0	34 34	-7.4	19 00	17.5	17.1	35 36 36 36	-7.1
02 04	70.0	62.I 66.0	22 <b>0</b> 5 21 59		02 04	22.8 22.6	19.0 19.0	30		02 04	17.1	16.4 16.5	37 37		02 04	17.1	17.1 16.9	36 <b>3</b> 6	
o6 o8	71.3 69.3	67.6 65.2	2I 57 22 00		06 08	20.7 23.2	17.0 19.2	33 30		06 08	20.9	19.9 19.7	3I 3I		o6 o8	17.0	17.0 17.3	36 35	
10	61.3	57.4	13		10	24.7	21.3	27		10	20.I	19.1	32		10	18.6	18.1 18.4	34	
12 14	54·4 49·3	49.4 44.0	24 32	-8.1	12 14	24.7 25.9	2I.I 2I.I	27 26	-7.8	12 14	20.9 21.2	19.9 20.1	31 30	-7.4	12 14	18.6	18.1	33 34	-7.1
16 18	56.1 56.2	51.I 50.5	22 22		16 18	27.3 27.0	23.3 $23.3$	23		16 18	21.3 22.1	20.2 21.1	30 29		16 18	19.1	18.4 18.9	33 33	
20 22	60.3	54.8 61.8	15 06		20 22	28.1 28.6	24.6 24.8	22 2I		20 22	22.9 22.7	22.I 22.0	27 28		20 22	19.9 19.2	19.2 18.9	32	
24	66.8		04		24 26	24.5	21.5	27 25		24	22.7	22,2	28		24 26	18.3	17.9	34	1
26 28	64.9	61.2	04 07		28	24.6 21.8	23.2 19.0	31		26 28	23.1	22.2	27 27 26		28	18.5	18.1	34 34	
30 32	62.6	58.9	10 14	-8.1	30 32	19.3 17.8	16.7 16.0	34 36	-7.7	30 32	23.8 23.2	22.5	26 27	-7.2	30 32	18.9	18.7	33 33	-7.
34 36	60.3	56.5	14		34 36	24.3 25.5	21.3	27 24		34 36	22.5 21.9	21.6	27 28		34 36 38	18.9	18.3 18.3	34 34	
30 38	63.8	56.3 60.8	08		38	21.9	19.6	30		38	22.4	21.9	29 28		38	19.8	19.1	32	
40 42	65.5	61.7	22 00		40 42	19.3 18.0	17.8 16.5	34 36		40 42	23.3 24.0	22.7	27 26		40 42	20.1	19.6 19.2	32 32	
44 46	70.9	67.5	21 57	-8.1	44	18.3 19.5	17.1 17.6	35	-7.8	<b>4</b> 4 46	23.8 24.1	22.3 22.7	27 26	-7.2	44 46	20.7	20.0 21.5	3I 29	-7
48	68.1 66.0	62.1	22 0I 05		46 48	21.6	19.8	34 30		48	24.9	23.8	25		48	21.6	20.9	30	
50 52	61.9 59.4	58.6 55.4	11		50 52	26.3 26.5	25.0 25.3	23 22		50 52	25.3 25.2	24.I	24 24		50 52	20.I 18.8	19.2 17.8	32 34	
54 56 58	58.5	54.3	17		54	22.0 20.8	20.3	30 31		54	26.7 24.9	24.7	22 24		54 56 58	17.2 17.0	16.7 16.1	36 37	
50 58	59.9 58.3	56.3 54.5	14		46 58.1	21.0		30		56 58	25.5	24.7	23		58	20.7	19.9	31	

Observers—W. J. P. and R. R. T., who alternated from 15h 56m to Observer—R. R. T. 16h 06m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedn	esday, April	6, 1904			Ma	gnet s	cale inve	rted	Thur	sday, April	7, 19	04				Magne	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Righ	d	ast ecli- ition	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp C.
1 m	d d 27.0 26.7	° ,	-7 T	h m	d 27.1	d 26.8	° ,	-7.I	h m 16 00*	d c		。 , 2 00	-11.9	h m 18 00	d 60.4	đ 65.9	22 19	-10.2
02	20.9 20.2	31	-7·I	02	27.2	27.0	20	_/.1	02	53.8 54.		06	-11.9	02	59.4	65.0	17	10.2
04	19.9 19.1	32		04	27.I	27.1	20	İ	04	53.0 54.	0	06		04 06	59.0 57.8	64.8	17	
o6 o8	19.2 18.9 17.9 17.3			06 08	26.9	26.9 26.1	2I 22	ļ	06 08	53.8 59. 55.5 60.		11	ļ	08	55.0	63.9	15 10	
10	16.9 16.2			10	25.9	25.5	22		10	56.0 59.	8	12		10	56.6	61.2	12	
I2 I4	16.4 15.9 16.4 15.9		-7.I	I2 I4	25.6 25.0	25.0 24.5	23	-7.1	I2 I4	52.5 60. 52.0 58.		10 80	-11.9	12 14	58.0 57.4	63.1 62.0	15 13	-IO.
16	16.3 15.9	38	/	16	23.9	23.3	24 26	,	16	52.0 58.	9	o8		16	56.3	61.0	12	
18 20	16.2 15.8 16.2 15.3	38		18	23.0	22.3 21.9	27 28		18 20	53.0 59.		09 05		18 20	54.2	58.9 58.0	08 07	
22	16.3 15.8	38		22	22.9	22.1	27		22	53.8 59	.3 2	2 10		22	55.3	59.8	10	
24 26	17.0 16.1 16.4 15.8			24 26	23.2	23.0 23.8	26 25		24 26	47.0 49. 51.0 55		2 04		24 26	54·4 54·5	58.3 59.0	08 08	
28 28	16.4 15.8	39	1	28	25.5	25.I	23		28	55.0 59	.8	11		28	55.3	59.8	10	
30	14.3 13.9	41	-7.0	30 32	27.I 27.I	26.3 26.1	2I 2I	-7.I	30	55.2 59		II IO	-11.5	30 32	55.2 55.9	59.9 59.9	10 10	l .
32 34	15.0 I4.1 16.0 I5.4			34.2	28.0	27.0	20		32 34	55.2 58 54.1 57		09		34	54.0	58.9	08	
36	15.1 14.8	39		36 38	29.1	28. I	18		34 36 38	51.7 55	ا و،	<b>o</b> 6		36 38	55-3	59.0 58.8	09	
38 40	14.2 13.7			40	29.0	28.1 28.7	17		38 40	50.7 54 47.0 53		03 22 00		40	54.5	55.5	03	
42	14.2 13.7	/ 4I		42	29.9	29.1	16		42	41.5 48	.3 2	21 52		42	50.0	53.2	00	1
44 46	15.0 14.1		-7.0	44 46 48	29.9 30.1	29. I 30.0	16	-7.0	44 46 48	41.3 49 39.9 46		52 48	-II.I	44 46	49.0	57.2 50.8	22 <b>0</b> 3 21 56	
48	15.8 15.	30		48	30.1	30.0				37.0 45	.1	45		48	48.1	51.0	21 57	
50	16.8 15.9	37		50 52	30.9	30.9 30.6			50 52	37.8 46 32.0 39		47 37	1	50.5 52	57.3	53.2 59.0	22 OI 10	
52 54	16.2 15.7			54 56	30.9	30.2	15	ĺ	54	37.0 44		44		54 56	73.0	75.9	36	
54 56	15.9 15.2	38		56 58	34.9				56 58	39.3 45 39.8 45		47 47	1	56 58	70.0	78.0 73.7	35 28	
58 1 00	14.9 14.		-7.0	23 00	32.0		16	-7.0	17 00		.2		-11.0	19 00*	38.0	48.1	25	
02	16.9 16.0	37	'	02	13.0		45 53		02	40.5 45		44 48 46		02	32.7	50.8 43.3		
04 <b>0</b> 6	16.9 16.	1 0		04* 06	42.I 44.3				04 06		.0	52		04 06	9.2	13.2		
08	15.9 15.			o8*	65.7	52.2			o8	44.0 47	.0	52		08	7.0	11.2		2
10	15.1 14.			10	57.9	46.1 50.6			IO I2		).I ).O	58 59		10 12	14.9	21.9 15.0		
12 14	15.7 14.9		-7.0	14	68.8	66.0	20	-7.0	14	49.0 49	.8	59 58	-10.9	14	22.I	22.2	52	2   ⊸9
16	15.1 14.	5 40		16	66.1 43.2				16		.0	54 54		16	21.3	30.6 27.0		
18 20	15.0 14.1			20	36.1	22.0	22		20	45.0 47	.8	53		20	16.0	25.7	50	)
22	18.0 17.	2 35	;	22 24	32.2	19.8 36.8	26		22	43.3 46		50 56		22 24	17.2	27.5 22.9		
24 26	18.7 18.	1 34 5 32		26	18	3.7b	38		24 26	47.2 50	).3 ).1	57		26	8.5	17.8	38	3
28	21.7 21.	1 29	2	28	26.9	24.6 28.0	23 48	-7.0	28	49.0 51	1.3	21 59	-1o.8	28 30*	7.6	15.9 59.8	28	
30	22.9 21.		-7.0	30* 32*	57.0	45.2	22 40	7.0	30		1.0	22 00 03	-10.6	32	48.2	56.8	3	1
32 34	23.5 22.	26		34	53.2	43.8	44		34	53.3 55	5.3	<b>o</b> 6		32 34 36	51.9	57.8	3.	5
34 36 38	24.0 23.	1 26	j	36 38	68.8	52.8 59.3			36 38		1.9 2.7	05 22 02		38	55.0 58.0	60.5		
38	24.2 23. 24.I 23.			40	69.9	59.1	19		40	49.0 50	0.2	21 58	1	40	58.9	63.2	4	4
40 42	24.0 23.	2 26	<b>5</b>	42	67.3	57 • 4	22		42	52.3 54	1.I	22 04		42	61.5 62.2	66.8	4	0 -10
44	24.2 23.	3 26		44 46	67.9	58.6			44 46 48	59.0 59	7.5	10 13		44 46	61.3	65.3	4	0  -10 8
44 46 48	24.7 23. 24.8 24.			48	58.1	50.9	34		48	55.8 6	3.0	13		48	62.9	67.8	5	I
50	25.0 24.	7 24	1	50	49.8 52.8				50	56.1 62 54.9 6	1.8	13 12	L .	50 52	65.6		. 5	5
52	25.4 25.	7 23		52 54	53.8	43.9 46.6			54	56.5 6	2.2	13		54	64.9	69.8	3   5	4
50 52 54 56 58	25.9 25. 26.2 26.	1 22		56	50.7 44.7	44.3	45		50 52 54 56 58	59.8 6	5.9	18	1	56 58	66.6	70.2		55   54
58	26.8 26.			58 24 00	44.7	38.0 46.0	55			60.0 6	0.0	19		20 00	64.	68.	í   3	52

Correction to local mean time is — Im 46.5s. 90° torsion = 16.'64. Torsion head at oh oom read 336° and at 24h 05m read 344°. Observer—R. R. T.

Correction to local mean time is — 2m 08.5s.  $90^{\circ}$  torsion = 15.78. Torsion head at 5h 35m read  $344^{\circ}$  and at 20h 20m read  $8^{\circ}$ . Observer—J. V.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Frida	y, April 8, 19	004			Ma	gnet s	cale inve	erted	Sund	ay, April	10,	1904			1	Magne	t scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca readi	ngs	East decli- nation	Temp. C.	Chr'r time	Scale reading Left Rig	1	East decli- nation	Temp. C.	Chr's	Sca readi Left	ngs	East decli- nation	Temp C.
h m	d d	۰,	۰	h m	d		0 /	•	h m		d  -	• ,	0	h m	d	d	· ,	0
0 00*	56.0 55.6 57.0 55.8	22 23	-15.0	22 00 02	46.2 48.4	41.8	22 I4 I0	-15.1	0 00* 02	58.2 59 58.1 58	3.9	22 42 41	-16.3	2 00	52.9	49.8 54.3	22 28 34	-13.0
04	56.8 55.2	23		04	50.5	44.8	06		04	58.2 59	).2	41		04 06	59. 69.3	8a ·	44 <b>5</b> 9	
06 08	58.6 57.3 60.0 57.8	20 18		06 08	50.0 52.9	46.7 47.7	07 04		06 08	57.7 58 58.8 59	3.3	40 42		o8	69.	2b	59 46	
10	61.8 57.3 62.0 58.6	18 16		10 12	50.7	46.1 45.8	07 07		I0 I2	57.3 58	3.o 3.3	40 40		I0 I2	57.6	61.2 59.8	40 43	
12 14	62.5 59.7	15	-15.0	14	52.0	48.8	22 04	-15.1	14	57.9 58	3.2	40	-15.8	14	50.3 48.1	52.I	31 28	-12.8
16 18	61.9 59.1 62.0 59.2	16 16		16 18	54.8 53.8	51.8	2I 59 22 00		16 18		0.7	42 44		16 18	47.I	50.I 49.0	26	
20	62.5 60.0	15		20	54.2	56.8 50.8	21 56		20	60.4 61	1.1	45 45		20 22	50.I 52.9	52.3 54.0	31 34	
22 24	63.0 60.7	14		22 24	54.0 51.9	49.4	22 0I 04		22 24	61.0 61	1.3	45		24 26	52.1	54.6	34	
26 28	65.1 62.1 65.9 62.8	11		26 28	52.I 49.0	50.0 47.5	03		26 28		2.3	47 47		20 28	56.8 54.0	58.3 55.3	41 36	
30	66.1 62.5	10	-15.0	30	50.8	48.8	05	-15.5	30	61.1 61	1.8	46	-15.0	30 32	40.2	50.9 47.9	22	-12.4
32 34	65.3 63.0 65.6 63.0	10		32 34	50.0 51.1	48.0 48.0	06 05		32 34		1.1	45 46		34	39.8	42.9	<b>2</b> 4 16	
36 38	65.0 62.8	11		36 38	48.9 53.8	46.9 50.8	08 01	·	34 36 38		2.7	46 47		34 36 38	36.2 37.7	38.1 38.8	. 09 II	
<b>3</b> 0 40	65.0 62.8 63.8 62.3	12		40	48.0	47.2	08		40	62.1 62	2.7	47 48		40	39.6	40.7	14	
42	63.5 62.0	13		42	46.8	46.0 43.5	IO I4	-15.8	42		3.2	48 49	-14.7	42 44	42.I 45.7	42.9 46.1	17 23 28	-12.3
44 46 48	68.0 67.8	04	-15.0	44 46 48	49.2	48.0	07		44 46	63.3 64	4.0 3.8	49		44 46 48	49.0 50.0	49·3 51.7	28 31	
48 50	69.2 68.9 71.2 69.4	03 22 0I		50	45.2	44.2 46.0	13		48 50	62.1 62	2.8	49 48		50 52	50.0	51.1	30	1
52	74.5 72.7	21 56 55		52	46.0	45.7 45.5	II		52 54	67.9a	7.9	56 55		52 54	50.7 49.9	52.I 51.I	31 30	
54 56*	75.2 73.0 60.9 56.0	51		54 56	47.0	46.2	10		56	68.1 69	9.8	22 58		54 56 58	48.9	50.1 48.0	29 26	
58	57.7 50.7 58.9 57.9	51 58 51	-15.0	58 23 00	46.0	45.2 45.2	II	-16.0	58 1 00		0.9	23 00 00	-14.0	3 00	47.3	45.8	22	-12.I
02	58.3 52.8	56 58		02 04	46.9 47.6	45.8 46.1	10		02	71.0 7	1.9	02 02		02 04	42.7 45.1	43.8 46.1	19 23	
04 06	57.4 51.0 57.4 51.8	57		06	47.0	45.0	11		04 06	69.6 70	8.0	23 00		06	48.5	49.0	27	
o8 10	56.2 50.7 56.0 50.3	59 60		08	45.4	43·5 44·9	13		08		8.8	22 57 55		08 IO	46.8 41.1	46.8 42.1	24 16	
12	56.2 50.8	21 59		12	47.7	44.I	11	-16.0	12	65.3 60	6.0	53	T2 -Q	12	39.2 37.8	39·5 37·9	13	
14 16	55.1 50.6	22 00	_	14	46.1	43.0	17	-10.0	14		3.6	49 46	-13.8	14 16	40.8	41.0	15	
18	53.5 50.2	02 06		18	41.5	38.0 38.0			18 20		2.0	47 45		18	44.6 49	44.8 .8a	21	
20 22	50.9 47.5 50.1 49.3	05		22	42.0	39.0	19		22	59.8 6	0.0	44		22	53.9	54.3	29 36	
24	49.8 48.2 50.0 48.0	1 -6		24 26	40.8		21 16		24 26	61.8 6	2.0	47 47		24 26	56.0	56.4 59.0 61.0	39 44	.
20 28	50.7 48.0	<b>o</b> 6		28	45.2	43.0	14		28	62.3 6	2.8	48	70.4	28	60.5	61.0 61.0	46 46 48	-I2.0
30 32	50.2 47.8 52.9 48.0	00	-15.1	30	45.8	44.I 44.0	I2 I2	1	30 32	59.5 6 58.2 5	38.8	44		30 32	61.0	62.2	48	3
34	52.9 48.7	03	3	34	47.1	44.2	11	ì	34 36 38	58.7 5 57.6 5	59. I	43 41		34 36 38	61.8	61.8 63.8	48 51	5
36 38	52.0 49.0 51.0 41.7	22 10		36 38	48.0	43.I 44.3	11		38	57.0 5	57.2	40		38	65.1	65.3	22 54	1
40	58.2 56.8	21 53		40	48.9	45.6	09		40 42	57·3 5	57·7 57·3	40 40		40 42	75.3	69.4 75.7	IC	5
42 44	63.8 60.0 66.8 63.1	46	-15.1	42 44	49.1	47.0	) o8	<b>–16.5</b>	44	57.0 5 55.8 5	56.8	39		44*	41.0	47.8	16	5
44 46 48	63.2 59.9	21 46	5	46 48	48.5	47.8	07		44 46 48 50	54.7 5	55.2 55.3	36		46 48		55.2 57.1		
50	54.9 49.9 46.0 37.8	17	<i>'</i>	50	54.0	52.5	( 00	•	50	55.8 5	56.2	38		50	53.0	58.3	34	4
52	41.0 37.0 60.2 54.2	22 22	;	52 54	47.8	45.8	10		52 54	57.9 5 56.1 5	56.3	38		52 54	46.0	56.1 50.2	2:	2
52 54 56 58	52.3 46.1	22 06	5	52 54 56 58	45.2	43.0	14		54 56 58	56.4 5 56.2 5	57.4	40		56 58	42.7		I	
58	46.0 42.0	14	1	24 00	45.0	42.9	14	-16.1	50	30.2	3/.0	40		30	39.4	44.3	1	

Correction to local mean time is — 2m 51.5s. 90° torsion = 12.'12. Torsion head at 19h 32m read 9° and at 24h 24m read 17°. Observer—J. V.

Observer-R. R. T.

1	A) +1	pril 10,	1904	1	11	. M	lagnet s	scale inv	erted	Mon	day, A	pril 11,	1904				Magn	et scale	erect
r'r ne	read	cale dings Right	East decli- nation	Temp. C.	Chr'r time	rea	cale dings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Гетр. С.	Chr'r time	reac	ale lings Right	East decli- nation	Tem
n 0*	d	d	0 ,	•	h m	d	d	. ,	0	h m	d	d	0,		h m	d	d	0 /	-
2	52.0 51.9	44.7	23 19 20	-II.7	6 00*	47.8		23 15	-11.0	8 00*	49.I 54.I	51.8 54.9	23 45 52	-14.0	IO 00 02	36.1	39.7	22 38	-13.8
6	51.5 48.9	45.1 42.2	20 24		04 06	48.0		11		04	53.0	54.2	50		04	36.9 38.8	39.9 41.8	38 42	
8	41.9	34.9	35 23 56		08	46.3	40.9	15		o6 o8	54.6 57.2	55.9 58.1	53 57		06 08	41.3 42.2	43·9 44·7	45 46	
2	27.9 19.2	13.8	23 50		10 12	45.6		14 21		I0 I2	57.2 56.3	59.7	57 58 56		10	42.1	44.3	46	
4* 6	44.7 48.2		22 I5	-11.7	14	41.9	38.3	20	-10.9	14	57.2	57·3 58·4	57	-13.2	I2 I4	41.6	43.6 43.1	45 44	-14.6
8	55-7	44.9	03		16 18	45.0	40.9 44.7	16		16 18	58.8 57.1	60.5 59.0	60 57		16 18	40.9 40.6	42.2	44	
0 2	46.9 46.5		17		20 22	50.0	45.4	08		20	52.6	55.1	51		20	41.1	43.0 43.2	44 44	
4	40.2	29.8	27		24 26	51.0	48.7	23 03		22 24	48.2 35.1	52.2 38.1	45 24		22 24	40.0 39.9	42.3 41.9	43	
6 8	44.2 34.4		22		26 28	57·3 55·8	52.2 52.1	22 57		26	30.5	33.2	16		26	39.2	41.1	42 41	
0	34.0	22.7	33 24 38	-11.7	30	58.8	55.2	59 54	-10.9	28 30	26.0 15.3	26.7 18.1	23 08 22 52	-12.8	28 30	37.6 36.2	39.7 38.0	39 36	
2* 4*	49.9 54.8	32.9 28.8	25 II 26 06		32	56.9 58.9	53.1 56.3	57		32	9.9	12.9	44		32	35.3	36.9	35	-14.2
5	69.0	44.8	25 43		34 36	57.8	55.I	53 22 55		35* 36	52.7 43.0	61.5 49.9	23 06		34 36	35.2 36.9	36.5 37.8	34 37	
8*   o	41.1 47.7		25 08 24 54		38 40	53.1 58.9		23 03 22 54		36 38	49.2	54.0	14		38	38.4	39.3	39	
2	48.3	20.I	55		42.7	59.4	56.6	52		40 42	56.I 57.I	60.8	25 26		40 42	39.0 38.7	40.3 39.9	40 40	
4 <b>*</b>	55·9 75·7	32.I 47.5	29	-11.3	44 46	58.7 59.9		54	-10.9	44	51.9	57.2	19	-12.3	44 46	37.9	39. I	39	-14.
3	60.8	34.7	24 23	5	48	60.8	56.7	52 51		46 48	46.I 50.I	49.8 53.1	08 14		46 48	36.9 35.9	37.8 36.6	37 35	
2	27.2 50.8	6.5 33·3	25 II 24 32	ļ	50 52	58.1 65.1		54		50	57.9	61.2	14 26		50	35.3	36. <b>o</b>	34	
4 5*	31.1	7.2	25 08		54	67.1	62.6	43 42 38		52 54	59.5 58.3	63.0	29 27		52 54	36.2 37.2	36.8 37.8	36 37	
)* }*	44·3 70·5	23.7 54.9	26 39 25 18		56 58	62.9		38 46	İ	56	60.0	63.7	30		56.3	37.1	37.4	37	
)	44.7	26.2	26 OI		7 00	63.2	61.7	46	-10.9	58 9 00	66.2	64.2	31 39	-12.3	58 II 00	36.1 35.0	36.8 36.3	35 35	-14.3
*4	32.8 30.9	14.1 37.0	25 08 26 05		02 04	55.5 65.0	51.7 63.1	59 43		02	63.3 61.8	66.6	35		02	35.9 38.8	39.3	40	14.3
	40.9	24.I	26 07		06	58.7	58.1	52		04 06	62.2	64.8 60.1	32 29		04 06	39.6	40.2	4I 4I	
*	69.1 63.9	53.2 47.7	25 22 24 49		08 10	55.0 66.8	52.7 66.1	59 39		08	63.1	64.8	33 36	ĺ	08	39.6	40.9	41	
2	65.9	50.I	45 38		12	59.8	58.6	51		I0 I2	64.2 66.1	66.9 68.2	38		IO I2	40.0	41.3 41.7	42 42	
	62.3	58.1 57.6	38 43	-II.I	14 16	70.I	.7a 70.1	48 33		14 16	66.3 65.8	68.1	38	-12.4	14	39.1	40.7	41	-14.
	68.7	63.2	33		18	бо.1	59.1	50		18	64.1	66.7 65.1	37 34		16 18	37.1 36.1	38.9 37.3	38 36	
	69.2 43.1	66.1 34.5	31 16	l	20 22	59.0 57.0	58.1 56.0	52 55		20 22	65.4	65.9	<b>3</b> 6	1	20	36.3	37.6	36	
. [	49.2	37.8	09		24	58.9	57.9	52		24	67.2 68.8	67.7 69.1	39 41		22 24	35.I 34.6	36.9 36.0	35 34	
	54.9 52.7	43.2	00 24 0I		26 28	64.8	63.2 64.8	43 42		26 28	70.0	70.4	43		24 26	35.3	36.3	34	
	55.7	47.6	23 56	-11.0	30	58.9 64.9 64.8 56.9	56.1	55	-10.8	30	71.0 73.0	71.8 73.8	45 48	-13.0	28 30	33.0 32.8	33.8 33.2	31	-14.7
	63.3 62.3	56.I	43 45	]	32 34	54.0	54.2 55·3	59 56		32	76.2 46.6	76.9	53		32	32.3 31.7	32.8	: 29	-4./
	72.7	55.2 66.1	45 28		34 36 38	56.1 58.1	57.9	53		34* 36	46.2	50.3	54 55		34 36 38	31.7 33.7	32.I 34.I	28 31	
	73.2 68.3	65.3	29 36		38 40	58.8 60.1	57·3 59.0	53 51		38	47.4	51.8	55 56	· ·	38	34.0	34.3	32	
	71.9	61.8	32	1,	42	58.9	57.2	53		40 42	49·3 49·1	53·7 53·5	59 59		40 42	34.0 34.2	34.6 34.8	32 32	
	78.7 69.4	68.1	22 28	-11.0	44 46	56.3 60.1	54·3 58.6	57 51	-10.7	44	47.2	51.2	55	-13.3	44	34.3	35.0	33 32	-14.9
- (	68.2	55.8	40		48	59.0	57.1	53		46 48	45.0 41.7	45.2	51 46		40 48	34.2 35.0	34·5 35·3	32 33	
15	60.8	61.1	35		50 52	62.0 64.8	60.0 63.1	48		50	42.I	46.1	48		50	35.0 36.1	36.1	35 36	
18	72.9 64.8	56.8	30 42		54	63.9	61.9	44 45		52 54	41.7 39.7	45·4 43.2	46 <b>43</b>		52 54	36.3 35.8	36.8 36.0	36	
16	51.5	57.6	44	ļ	56	64.9	62.9	44		54 56 58	35.8	36.2	35 36		44 46 48 50 52 54 56 58	35.3 36.6	35.9	35 34 36	
12	73.2	71.2	24		58 8 oo	65.9 68.1	66.8	42 38	-10.6	50	35.0	38.8	30		58 12 00	36.6 36.3	36.8	36 36	-15.0

Correction to local mean time is — 28s. 90° torsion = 14.'25. Torsion head at oh oom read 17° and at 9h 25m read 341°. Observer—R. R. T.

Correction to local mean time is — Im 03s. 90° torsion = 14.'29. Torsion head at 7h 35m read 14° and at 12h 15m read 24°. Observer—R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Tues	day, April 12	, 1904			Ma	ignet s	scale inve	erted	Wedı	nesday,	, April	13, 1904	ŀ			Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem; C.
h m	d d	0 ,	-	h m	d	d	. ,	0	h m	d		· ,	•	h m	d	d	0 /	0
2 00	53.9 51.7 52.8 50.8	22 41	-19.8	14 00	57.2	57.0	22 34	-19.8	0 00*	40.2	40.9	22 26	-22.9	2 00 02	43.8 38.8	45.2 40.0	22 32	-23.5
04	51.2 50.6	42 44		02 04	57·3 57·4	57.0 57.2	34		02 04	38.9 37.7	39.2 38.0	24 22		04	37.8	38.7	24 23	
06 08	52.3 50.9 52.1 50.4	43 43		06 08	57.I 57.0	57.1 56.4	34		06 08	36.5 37.3	38.0 39.2	2I 23		06 08	38.8	40.0	24 28	1
10	52.2 50.9	43		10	56.3	55.8	34 36		10	37.0	38. <b>o</b>	22		IO	43.9	44.8	32	
12 14	52.1 51.0 52.2 50.8	43 43	-20.0	12 14	57.0 57.2	56.0 56.3	35 34	-19.8	12 14	36.8 37.0	39.2 39.0	22 22	-22.9	12 14	42.2	43.0 47.0	<b>30</b> <b>3</b> 6	-23.
16	52.2 51.3	42	20.0	16	57.8	56.1	34	29.0	16	37.2	40.3	23	_	16	42.2	43.8	30 36	
18 20	53.0 52.1 53.8 52.6	4I 40		18 20	57·3	55.7 55.6	35		18 20	37·7 37.6	40.5 40.4	24 24		18 20	46.2	46.9 45.3	34	
22	53.8 52.6	40		22	56.8	55.1	35 36 36		22	38.1	40.8	24 26		22	45.3	46.9 51.1	35	
24 26	53.5 52.1 54.0 53.0	41 40		24 26	56.7	55.0 55.2	36		24 26	39.2 38.8	42.0 40.3	24	1	24 26	49.5	49.4	42 38	
28	55.1 54.0	38 38		28	57.2	56.2	34	70.0	28	35.0	37.0	19 20	-23.0	28 30	45.0 44.0	46.9 45.1	35 32	-23.0
30 32	55.1 54.2 55.2 54.9	37	-20.0	30 32	57.1 57.8	56.0 55.2	35 35	-19.8	30 32	35.2 38.5	37.2 38.9	23	23.0	32	44.0	44.9	32	_5
34	55.6 55.1	37		34 36	57.2	55-9	35		34 36	40.0 38.0	40.3 38.3	26 22		34 36	44.2 49.0	46.5 51.0	34 41	
36 38	55.2 55.2 55.0 54.3	37 38		38	56.9	55·5 55·3	35 35		38	38.9		24		36 38	51.0	53.8	45	
40	54.0 53.4	39		40	57.8 58.0	55.9 56.0	34 34		40 42	39.0 41.1	39.7 42.1	24 28		40 42	52.0	55.2 55.0	47 48	
42 44	53.3 52.3 54.0 52.9	4I 40	-20.0	42 44	57.9	55.8	34	-19.7		42.8	43.2	30	-23.2	44 46	49.7	51.0	42	-22.
46	53.2 51.9	41		44 46 48	56.2	55.0	36		44 46 48	44.2	44.7 46.8	32 36		46 48	50.1 45.5	52.2 47.7	43 36	
48 50	53.I 5I.9 52.3 5I.I	4I 42		50	55.9 55.2	54.I 54.0	37 38 38		50	42.2	43.0	30		50	47.2	48.5	36 38	
52.2	53.1 52.3	41		52	55·5 57·6	54.0 55.9	38		52 54	39.8	40.9 39.2	26 23		52 54	50.7	51.8 52.9	43 44	
54 56	54.I 53.I 55.9 54.2			54 56	62.0	60.3	34 28		54 56	38.8	39.8	24		56	50.9	53.0	44	
58	55.9 54.2 56.5 54.9		-20.0	58 15 00	65.1	64.0 64.2	22 22	-19.7	58 1 00	38.9		24 26	-23.2	58 3 00	58.8	52.1 60.3	44 56	-22.
02	57.0 56.0	34		02	64.0	63.3	24	",	02	37.8	45.8	28 28		02	53.7 58.0	55.0 58.4	48 54	
<b>0</b> 4 <b>0</b> 6	58.3 56.8 58.2 56.1			04	62.9	62.0 59.9	26 29		04 06	37.0		26		04 06	57.3 57.8	58.2	53	
o8	58.0 56.5	34		08	60.4	59.3	30		o8	36.2	43.2	25		08	57.8	58.0 54.0	54	
10 12	57.8 56.1 57.3 56.1			10 12	59.0 58.9	58.0 57.7	32 32		10 12	29.0	_	14	ļ	12	53.7	54.8	47 48	
14	56.0 55.4	. 36	-20.0	14 16	59.8	58.5	31	-19.6	14	34.9	40.3	22	-23.4	14 16	57.2 59.0		53 57	-22.
16 18	55.8 54.7			18	58.8 58.7	56.9 57.1			16	36.9		25 26	23.4	18	58.7	60.0	56	
20	57.0 55.8	35		20	59.0 58.3	57.2 56.6	32 33		20 22	38.0		26 27		20 22	59.8 55.8	61.0 57.1	57 51	
22 24	57.8 57.0 58.0 57.7			22 24	56.3	54.5			24	39.0 38.8		27		24	55.0	56.0	50	
26	58.3 58.0	32	;	26 28	56.1	54.2 55.1	37 36		26 28	39.0	43.2	27 20		26 28	56.1 57.2	56.8 57.5	51 53	
28 30	57.0 56.8 56.2 55.2	7   30	-19.9	30	56.8 57.7	56.2	34	-19.6	30 32	35.0 36.0 36.8	39.9	22	-23.5	30	57.0	57.2	53 52	-22
32	56.6 55.7	35	i	32	57.7	57.0	34		32	36.8 35.6	40.0	23 2I		32	56.9		53 22 56	
34 36 38	58.0 57.0	) 33		34 36	54.0 54.8	54.I	38		34 36 38	33.5	36.2	17	}	34 36 38	63.2	64.2	23 O3	
38	59.8 58.8	3 30	•	38	55.3	55.1			38 40	34.I 32.8	36.1 34.7			38 40	69.8	75.3 74.0	18	
40 42	56.4 55.3	33	5	42	55.0 55.8	55.2	: 36		42	32.8	35.0	16		42	74.2	75.4	20	
44	57.4 56.2 57.8 57.1	7 34 1 33	19.8	44 46 48	57.9 58.3	57.2 58.2	33 32	-19.5	44 46 48	35·4 35·7	38.0 38.2		-23.5	44 46	73.4	73.5	19	
44 46 48	57.8 57.1	1 33	3	48	58.2	58.2	32		48	34.1	37.1	18	1	48	73.8	75·3		
50 52	57.1 56.9			50 52	59.8	59.8 59.0			50 52	35·4 36.5	38.0 39.2			50 52	72.0			5
54	57.8 57.0	33	3	50 52 54 56	59.3 59.8	59.3	30		54 56	39.3	41.9	26	t	53	73.9	76.2	20	)
54 56 58	57·7 57·3 57·7 57·3			56 58	59.6	58.9	29		56	41.9	44.3	30		53 56 58	75.2 75.8	77.0 77.0		
50	37.7 37.4	3		16 00	58.9	58.9 57.9	32			10.0								

Correction to local mean time is — 1m 43s.  $90^{\circ}$  torsion = 16.03. Torsion head at 11h 25m read  $40^{\circ}$  and at 16h 20m read  $31^{\circ}$ .

Observer—J. V.

Chr'r	Sca read		East decli-	Temp.	Chr'r		ale ings	East decli-	Гетр.	Chr'r		ale lings	East decli-	Тетр.	Chr'r	Sc: read		East decli-	Tem
time	Left	Right	nation	C.	time		Right	nation	C.	time	Left	Right	nation.	C.	time	Left	Right	nation	C.
h m	d	d	0 ,	-22.8	h m	đ	d	0 ,	•	h m 8 oo	d	d	0 /	-22.2	h m	d 22.9	d 24.0	。, 22 46	-21.0
4 00 02	70.2 68.0	72.I 72.5	23 I4 I3	-22.8	6 00	23.3 25.9	24.6 27.2	22 47 51	-22.8	02	52.3 52.0	52.5 53.5	23 32 32	-22.2	02	21.6	22.6	44	
04 <b>0</b> 6	67.9 70.3	71.5 74.0	12 16		04 06	26.8 28.0	28.0 29.6	52 54		04 06	52.2 49.7	54.0 52.5	33 30		04 06	18.8 26.3	20.0 27.I	40 51	
10*	72.6 44.0	75·3 51.0	19 24		08	28.4 29.5	30.2 31.0	55 57		08 10	44.6 Ove	46.2 rľk'd	20		08	26.6 26.6	27.0 27.5	51 52	
12	44.8	51.1	24		12	31.1	33.0	22 60		12	41.5	44.2	16	-22.0	12 14	28.6	29.5 25.9	55 50	-21.8
14 16	43·3 37·3	48.9 43.1	22 I2	-22.9	14 16	32.0 34.1	34·3 37·0	23 01 05	:	14	48.4	50.5 44.3	27 17	-22.0	16	25.5 26.7	27.6	52	21.0
18 20	37.9 38.0	43.I 43.I	13 13		18 20	35.0 36.1	38.2 40.1	07 09		18 20	42.3 48.5	44.0 50.1	17 27		18 20	23.I 25.6	23.9 26.2	46 50	
22 24	42.0 47.0	47·3 52.0	19 27		22 24	38.1	42.I 43.0	12 15		22 24	43·5 43·3	45.6 44.5	19		22 24	24.6 24.3	25.3 25.6	50 48 48	
26	44.3	48.3	22		26	39.0	44.0	14		26 28	43.3	46.3	20		24 26 28	23.6	24.0 22.3	47	
28 30	39.I 33.0	43.2 37.4	23 04	-22.8	28 30	36.0 35.2	41.0 40.2	08		30	45.2	47.8	22 16	-22.0	30	24.2	24.4	44 47	-21.6
32 34	29.9 28.0	32.2 30.4	22 58 55		32 34	34·3 33.8	38.8 38.0	06 06		32 34	43.6	45.6 42.6	19 14		32 34	21.0 18.5	21.2 19.1	42 39	
34 36 38	27.8 32.6	30.2 34.9	22 55 23 02		36 38	38.3 43.1	42.0 46.8	12 20		36 38	36.7 34.6	38.6 36.0	08 05		34 36 38	18.4	18.9 19.9	39 40	
40	35.0	37.2	06		40	47.8	51.0	27		40	31.7	36.6	23 03		40	18.3	18.7	38 37	
42 44 46	41.0 38.9	43.6 41.2	16 12	-22.8	42 44	38.8 45.0	45.3 48.0	15 22	22.I	42 44	31.6 37.0	32.I 39.5	22 59 23 09	-22.0	42 44	17.3	18.3	37 38	-21.
46 48	37.9 38.8	38.6 39.1	09 10		46 48	49.0 57.0	51.2 60.1	28 41		46 48	40.4 39.5	43·5 42.1	15 13 18		44 46 48	18.3	19.0 17.9	37	
50 52	37.1 33.0	37.I	08 23 01		50 52	58.0 47.3	60.8 50.7	42 26		50 52	42.5 40.1	45.8 43.1	18 14		50 52	16.0 17.3	17.4 18.7	36 38	
54 56	31.0	33.I 3I.O	22 58		54.4	46.5	49.0	24		54 56	34.6	38.3	<b>o</b> 6		54 56	18.2	19.6 21.0	39 41	
50 58	30.2 29.1	31.2 29.8	57 55	_	56 58	52.9 59.7	54.0 61.0	33 44		58	39.8 36.4	41.6 37.0	13 07		58	18.6	20.I	40	
00	28.5 28.9	29.9 29.2	55 55	-22.8	7 00 02	56.2	64.0 53.0	44 32	-22.0	9 00 02	36.9	37·4 35·2	08 04	-22.0	II 00 02	19.6	20.5 21.3	4I 42	-2I.
04 06	29.0	29.8 28.7	55		04 06	49.8 45.5	52.0 46.8	29 22		04 06	37·3 33·1	37·5 33.6	08 02		04 06	19.4	20.6 17.6	41 36	
<b>o</b> 8	27.2 26.5	28.0	53 52		о8	54.0	58.4	38		08	32.6	33.0	10	'	08 10	14.5	15.5	33	
10 12	24.9 22.8	25.9 23.4	49 46		IO I2	63.0 59.8	65.2 61.1	50 44		10 12	32.2 33.0	32.2 33.0	23 01		12	16.9	14.5 17.5	32 36 38	
14 16	23.3 23.1	24.2 24.0	46 46	-22.9	14 16	59.1 56.4	61.3 58.3	44 39	-22.3	14 16	31.0 34.6	31.8 34.9	22 58 23 04	-22.0	14 16.9	17.2	19.0 17.4	36	-21.
18	23.2	24.0	46		18 20	56.0 54.0	59.7 56.9	40 36		18 20	31.3 31.6	32.7 32.8	23 00		18 20	19.7	20.3 18.6	41 38 38	
20 22		23.4 24.0	45 46		22	54.0	57.0	36		22	31.6	32.3	22 59 56		22	17.9	18.3	38	
24 26	21.9 21.1	22.0 22.0	44 43		24 26	56.3 56.2	58.2 60.7	39 41		24 26	29.3 27.6 28.0	30.9 29.0	54		24 26	20.6	22.2 21.3	43 42	
28	19.1 1 <b>7.</b> 9	17.8	43 38 38	-22.8	28 30	63.0 57.2	65.0 59.2	50 41	-22.3	28 30	28.0 28.1	29.7 29.6	54 54	-22.0	28 30	18.3	19.1 16.8 16.4	39 35	-21.
30 32	18.1	19.3	39	22.0	32	53.2	54.8	34		32	26.1 26.0	27.0	51 51		32 34	16.0 14.0	16.4 14.7	35 32	
34 36 38	29.2 18.0	29.9 18.0	39 56 38		34 36	54.0 57.3	55·3 58·1	35 40		34 36	25.4	<b>2</b> 6.8	50		36	8.11	12.8	29 28	
38 40	14.9	16.0 12.0	33 27 26		<b>3</b> 8 40	56.1	56.0 58.2	37 39		39 40	29.5 27.3	30.3 28.7	56 22 53		38.3 40	12.7	12.6 13.7	30	
42	ю.8	11.2		-22.8	42	58.8 61.5	60.1 63.0	42 47	-22.2	42 44	31.3	34.0 29.7	23 00 22 54	-22.0	42 44	13.4	14.2 11.7	31 27	-21.
44 46	13.9 17.0	17.2	31 36	22.0	44 46	61.2	61.9	46		46	30.3	32.3	22 54 58		44 46 48	12.2	12.9	29	
48 50	19.7	20.7 20.2	41 40		48 50	52.3 56.9	53.2 57.0	32 39		48 50	29.2 27.0		56 53		50	7.8	9.1	27 22	
52	18.3	19.0	38		50 52	62.6 54.5	62.8 56.2	39 48 36		52	27.3 25.0	29. <b>0</b>	53 50		52 54 56	7.6	9.6 9.6	23 23	
52 54 56 58	20.1 19.0 20.0	19.8	41 40 42		54 56 <b>58</b>	54·5 54·3 47.0	54.3	34 23		54 56 58	25.6	27.3 24.9	51 47		56 58	7.5 8.2 8.0	10.0	24	

Observers—J. V. and W. J. P., who alternated from 7h 56m to Observer—W. J. P. 8h o6m.

#### SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

#### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

22 7.8 8.8 22 04 36.7 39.1 20 02 33.6 39.8 19 02 31.0 32.1 10 08 4.1 06 10.3 10.8 25 06 33.5 37.0 16 08 14.0 14.6 32 06 33.8 37.6 16 08 14.0 14.6 32 32 10 37.6 40.8 22 11 11.3 11.9 27 14 11.3 13.1 28 21.0 14 30.3 33.3 37.6 16 08 33.9 34.0 12 12 11.3 12.6 28 18 10.1 12.4 27 20 10.5 12.3 20 10.5 12.3 20				1	1												
1. 1. 1 12. 8 22 8 -21.0		readings	decli-			readings	decli-			readings	decli-	Temp. C.		read	lings	East decli- nation	Tem.
2 00	h m	d d	. ,		h m	d d	0 /	-	h m	d d	0 ,	•	h m		đ	. ,	-
04	00	11.4 12.8	1	-21.0	14 00	37.3 39.8	1	-21.0	16 00	30.9 31.0		-20.5	18 00	33.6	34.8	22 14	-19.6
06		9.8 9.8			11				II.				il			15 15	1
10			L .			33.6 37.0									34.9	13 14	
14         11.3         13.1         28         -21.0         14         30.3         33.3         10         -20.8         14         42.8         44.4         28         -20.3         14         31.2         28         10.5         11.4         29.3         35.6         11.8         16         30.6         35.6         11.8         18         14.0         42.8         44.4         1.2         28         16         33.6         32.8         20         40.1         44.0         42.3         20         34.1         44.0         42.3         20         40.1         44.0         42.3         34.1         34.2         22         24         39.6         43.3         25         22         41.0         44.5         27         22         33.7         40.5         21         26         30.2         37.1         18         26         33.0         30         41.0         44.2         30.3         35.0         31.0         22         24         30.7         30.3         35.0         31.0         32.2         32.3         33.0         30         35.5         31.3         30.3         33.5         33.0         30.5         35.1         16         32.8         33.0	10	14.0 14.2	32		10	37.6 40.8	22		10	37.1 38.0	19		10	32.7	34.0	12	
16			27 28	-21.0	11			-20.8	11		33	-20.3	()			II	-10.0
20         10.5         12.3         27         20         37.3         42.5         23         25         20         40.1         41.0         24         20         34.1         25         22         39.7         43.3         25         22         40.1         44.5         27         22         33.3         33.3         25         22         43.0         44.5         27         22         33.3         33.3         25         24         35.6         39.2         19         20.8         38.0         38.0         38.0         20         22         33.3         33.0         20         41.0         44.0         27         20.8         33.0         39.2         19         20.8         36.2         37.1         18         20.0         28         33.3         30.2         19         20.8         36.2         38.7         11         15         34         41.7         44.3         28         34         30.3         33.9         10         34.2         35.5         37.0         17         36         36.3         36.2         34.1         36.3         35.5         38.0         20         40         38.6         33.3         36.2         41         38.3	16	11.3 12.6	28		16	30.6 35.6	12		16	42.8 44.1	28		16	32.6	33.0	12	1900
22   7.5   10.2   23   22   39.7   43.3   25   22   41.0   44.5   27   20   22   433.7   24   64   9.6   9.6   22   24   39.6   43.3   25   26   37.3   40.5   21   22   24   33.6   39.6   28   37.8   40.6   22   22   28   35.6   39.2   19   -20.8   32   42.3   45.0   28   32   33.0   35.6   39.2   19   -20.8   33   41.7   44.3   28   34   30.3   33.0   16   36   35.3   37.1   18   -20.0   30   34.3   35   40.3   42.6   25   36   34.0   37.3   30.2   14   38   36.3   37.1   38   34.2   35.2   36.1   16   34   36.1   36   40.3   42.6   25   36   34.0   37.3   36.2   14   38   36.3   37.0   16   36   35.3   37.0   17   366   36.3   37.1   38   34.2   35.0   14   38   36.3   36.2   37.1   38   34.2   35.0   14   38   36.3   36.3   36.3   37.0   16   36   35.3   37.0   17   36   36.3   36.3   37.0   36   37.3   39.9   27   37.0   36   37.3   39.9   27   37.0   36   37.3   34.8   13   36.3   37.0					III .		1		11				11			I2 I4	
28 37.8 40.6 22 2 20.8 38.6 39.4 19 20.0 38 38.0 38.0 38.0 38.0 38.0 38.0 38.		7.5 10.2				39.7 43.3	25							33.7	34.8	14	
30	26*	40.0 42.8			26	37.3 40.5				36.2 37.1			26			13	
32       42.3       45.0       28       32       32.0       35.6       13       32       34.9       35.1       15       32       36.1       36       36.3       36.3       37.0       16       36       40.3       42.7       26       38       33.3       36.2       14       38       33.2       35.0       17       36       36.3       36.5       38.3       37.0       17       36       36.3       36.3       36.2       14       40       36.5       40.3       36.5       38.3       37.0       17       36       36.3       36.3       36.2       36.1       40       38.5       38.3       37.0       17       36       36.3       37.0       16       42.2       37.7       46.3       37.3       36.9       29.1       42.2        37.3       36.9       29.1       46.3       31.0       98.2       37.2       46.3       37.2       46.3 </td <td></td> <td></td> <td></td> <td>-20.8</td> <td>11</td> <td></td> <td></td> <td>-20.8</td> <td></td> <td></td> <td></td> <td>-20.0</td> <td></td> <td></td> <td></td> <td>12</td> <td>-10.</td>				-20.8	11			-20.8				-20.0				12	-10.
40 38.6 40.0 22	32	42.3 45.0	28	20.0	32	32.0 35.6	13		32	34.9 35.1	15	20.0	32	36. I	36.5	17	-9.
40         38.6         40.6         22         40         36.5         38.3         19         40         32.8         33.4         12         40         36.5         38.3         19         40         32.8         33.4         12         29.0         31.0         08         42         37.7         44         38.6         40.0         22         -20.8         44         33.3         35.4         14         29.0         31.0         08         42         37.7         44         38.6         40.0         22.2         -20.8         46         37.3         39.9         21         46         37.3         39.9         16         46         28.8         31.0         08         46         39.1         46         32.8         38.7         22         24.0         22.5         20.0         44         38.7         22.0         38.9         37.1         55         44.0         44.0         24.2         37.3         39.9         16         48         36.0         32.2         38.9         30.7         22         24.0         25.0         21.5         88         38.1         31.9         50         24.1         26.0         25.0         21.5         38.9         3	36				34 36				34.2		1		34 36	36.3	37.2	17	
42	38		1			33.3 36.2				34.2 35.0			38	36.3	37.2 37.8	18	
50         38.6 d 41.3 d .2 d .2 d .0 d .2 d .0 d .2 d .0 d .2 d .0 d .0		40.2 41.5			42	33.3 35.4			42		08	Ì		37.7	38.9	20	
50         38.6 d 1.3 d 1.3 d 1.3 d 1.3 d 1.4 d 1.3 d 1.4 d 1.5 d 1.5 d 1.4 d 1.4 d 1.4 d 1.4 d 1.4 d 1.4 d 1.4 d 1.4 d 1.4 d 1.4 d 1.4 d 1.4 d 1.4 d 1.5 d 1.8 d 1.3 d 1.4 d 1.4 d 1.4 d 1.4 d 1.5 d 1.6 d 1.8 d 1.3 d 1.4 d 1.4 d 1.5 d 1.8 d 1.3 d 1.4 d 1.4 d 1.5 d 1.8 d 1.3 d 1.4 d 1.4 d 1.5 d 1.8 d 1.3 d 1.4 d 1.4 d 1.5 d 1.8 d 1.3 d 1.4 d 1.4 d 1.5 d 1.8 d 1.3 d 1.4 d 1.4 d 1.5 d 1.8 d 1.3 d 1.4 d 1.4 d 1.4 d 1.4 d 1.4 d 1.4 d 1.4 d 1.4 d 1.5 d 1.8 d 1.3 d 1.4 d 1.4 d 1.4 d 1.5 d 1.8 d 1.3 d 1.4 d 1.4 d 1.5 d 1.8 d 1.3 d 1.4 d 1.4 d 1.5 d 1.8 d 1.3 d 1.4 d 1.5 d 1.3 d 1.4 d 1.5 d 1.3 d 1.4 d 1.5 d 1.3 d 1.4 d 1.4 d 1.4 d 1.5 d 1.3 d 1.4 d 1.4 d 1.5 d 1.5 d 1.3 d 1.4 d 1.5 d 1.5 d 1.3 d 1.4 d 1.5 d 1.5 d 1.3 d 1.4 d 1.5	44 46		1	-20.8	44			-20.6	44			-20.0	44 46			22	-19.
52         41.9         43.2         27         52         38.9         30.7         22         52         24.0         25.0         21.58         52         37.1           54         43.0         44.0         20         56         42.9         43.5         28         56         29.8         31.9         08         56         22.0         58         30.2         32.2         09         56         22.0         58         30.2         32.2         09         27.0         27.3         03         56         37.3         56         32.9         27.0         27.3         03         56         37.3         56         37.2         58         30.2         32.2         09         09         -20.6         17         00         13.8         14.0         21.2         22.00         58         36.9         36.0         00         22.01         17.7         19.0         13.8         14.0         21.2         22.00         00         36.0         00         36.0         00         22.1         21.7         53         36.0         00         22.01         21.7         53         36.0         00         22.01         22.0         00         22.0         00	48	36.8 38.7	19		48	33.6 37.0	16		48	26.1 28.7	22 03	ļ	48	38.1	38.7	20	
56       43.0       44.0       20       54       35.3       36.3       16       56       29.8       31.9       56       29.8       31.9       56       29.8       31.9       56       29.8       31.9       56       29.8       31.9       56       29.8       31.9       56       29.8       31.9       56       29.8       31.9       56       29.8       31.9       56       27.0       27.0       27.0       27.0       20.0       58       36.9       56       37.3       36.0       56       27.0       27.0       20.0       13.8       14.0       21       42       -19.7       19 00       36.6         02       41.3       42.7       26       04       26.4       28.7       03       04       24.4       28.7       03       04       24.4       28.7       03       04       24.4       28.7       03       06       27.8       29.8       22.0       15       04       36.0       08       21.6       23.6       21       56       06       27.8       29.8       22.0       15       04       36.0       06       27.8       29.8       22.0       05       06       36.0       08 <t< td=""><td>52</td><td></td><td></td><td></td><td>52</td><td></td><td>22</td><td></td><td>52</td><td></td><td></td><td></td><td>52</td><td></td><td>37.8</td><td>19</td><td></td></t<>	52				52		22		52				52		37.8	19	
3 00         41.0         42.3         25         -20.8         15 00         28.2         31.3         07         -20.6         17 00         13.8         14.0         21 42         -19.7         19 00         36.6           02         41.3         42.7         26         04         26.4         28.7         03         04         24.0         25.9         21 59         04         36.0           06         43.6         45.5         30         06         25.3         26.6         22 01         06         27.8         29.8         22 05         06         36.0           10         41.3         42.4         26         10         26.0         27.2         22 02         10         25.2         29.8         22 05         06         36.0           12         39.4         40.0         22         12         29.9         31.0         08         12         25.2         27.9         02         12         36.8           14         42.1         43.2         27         -20.9         14         33.3         34.5         13         -20.5         14         26.3         28.9         03         -19.6         14         42.1	54	43.0 44.0	20		54				54 56		22 00		54	37.3	3 <b>8.</b> 0	19	
02         41.3         42.7         26         02         32.6         34.6         13         02         20.1         21.7         53         04         36.1           04         41.8         42.7         26         04         26.4         28.7         03         04         24.0         25.9         21 59         21 59         04         36.0           06         43.6         45.5         30         06         25.3         26.6         22 01         06         27.8         29.8         22 05         06         06         36.0         08         21.56         08         21.56         08         22.01         06         27.8         29.8         22 05         06         08         35.8           10         41.3         42.4         26         10         26.0         27.2         22 02         10         26.5         29.5         04         10         34.2         12         29.9         31.0         08         25.9         29.5         04         10         34.2         12         29.9         31.0         08         25.9         29.5         04         10         34.2         12         29.0         29.5         18	58	42.3 42.6	27			30.2 32.2	09		58	25.2b	22 00		58	36.9	37.2	19	
04       41.8       42.7       26       04       26.4       28.7       03       04       24.0       25.9       21.59       04       36.0         06       43.6       45.5       30       06       25.3       26.6       22.01       06       27.8       29.9       20.5       06       36.0         08       42.6       43.6       28       08       21.6       23.6       21.56       20.0       08       28.3       31.9       07       06       36.0       08       35.8       08       35.8       08       31.0       08       28.3       31.9       07       06       36.0       08       38.3       31.9       07       07       06       36.0       08       38.3       31.9       07       00       06       36.0       08       38.3       31.9       07       00       06       36.0       08       38.3       31.9       07       00       06       36.0       08       38.5.8       10       08       28.3       31.9       07       02       10       36.0       08       38.5.8       10       08       29.5       04       29.0       03       11       09.0       11		,		-20.8				-20.6				-19.7	-			18	-19.
08	04	41.8 42.7	26		04	26.4 28.7	03		04	24.0 25.9	21 59		04	36.0	36.9	17	
12       39.4       40.0       22       12       29.9       31.0       08       12       25.2       27.9       02       12       36.8         14       42.1       43.2       27       -20.9       14       33.3       34.5       13       -20.5       14       26.3       28.9       03       -19.6       14       42.1         16       40.6       41.4       24       16       36.6       37.5       18       18       26.1       28.9       03       16       37.6         18       30.8       40.4       23       18       38.1       39.2       21       18       26.1       28.9       03       18       38.2         20       38.2       39.7       21       20       36.6       37.2       18       20       27.4       29.2       04       20       36.6         22       38.3       41.1       22       24       40.5       42.0       25       24       26.0       27.0       02       24       41.1       26.3       28.3       04       26.3       33.9         28       36.2       39.8       20       33.8b       13       28       25.0			28			21.6 23.6				28.3 31.0				35.8	36.9	17	
14       42.1       43.2       27       -20.9       14       33.3       34.5       13       -20.5       14       26.3       28.9       03       -19.6       14       42.1         16       40.6       41.4       24       16       36.6       37.5       18       18       38.1       39.2       21       16       25.9       20.1       03       16       37.6         18       30.8       40.4       23       18       38.1       39.2       21       20       36.6       37.2       18       20       27.4       29.2       04       20       36.6       37.7         24       41.6       43.9       27       24       40.5       42.0       25       24       26.0       27.0       02       24       41.1         26       38.0       41.2       22       21.0       30       28.0       28.5       33.8       13       24       26.0       27.0       02       24       41.1       26.3       28.3       04       26.3       33.9         28       36.2       39.8       20       22       21.0       30.2       28.0       28.2       25.0       25.3       00<					11				11					34.2	35.0 38.7	14 15	
18       30.8       40.4       23       18       38.1       39.2       21       18       26.1       28.9       03       18       38.2         20       38.2       39.7       21       20       36.6       37.2       18       20       27.4       29.2       04       20       36.6         22       38.3       41.1       22       22       40.5       41.3       24       22       29.0       29.9       06       22       37.7         26       38.0       41.2       22       26       35.5       35.8       16       26       27.3       28.3       04       26       33.9         28       36.2       39.8       20       28       33.8b       13       28       25.0       25.3       00       28       28.4         30       36.5       42.0       22       21.0       30       28.0       28.2       04       -20.5       30       24.9       25.4       22.0       -19.6       30       30.0         32       37.3       43.0       23       33.0       34.3       13       34       24.0       25.3       59       34       35.0	14	42.1 43.2	27	-20.9	14	33.3 34.5	1,3	-20.5	14	26.3 28.9	03	-19.6	14	42.I	45.3	29	-rg.
20     38.2     39.7     21     20     36.6     37.2     18     20     27.4     29.2     04     20     36.6       22     38.3     41.1     22     22     40.5     41.3     24     22     29.0     29.9     06     22     37.7       24     41.6     43.9     27     24     40.5     42.0     25     24     26.0     27.0     02     24     41.7       26     38.0     41.2     22     26     35.5     35.8     16     26     27.3     28.3     04     26     33.9       28     36.2     39.8     20     30     28.0     28.2     04     -20.5     30     24.9     25.4     22 00     -19.6     30     30.0       30     36.5     42.0     22     21.0     30     28.0     28.2     04     -20.5     30     24.9     25.4     22 00     -19.6     30     30.0       32     37.3     43.0     23     33.0     34.3     13     32     23.0     24.8     21.58     32     30.9       36     28.3     32.5     08     36     30.6     32.3     09     36     22.1     2							1				_					22 22	
24       41.6       43.9       27       24       40.5       42.0       25       24       26.0       27.0       02       24       41.1         26       38.0       41.2       22       26       35.5       35.8       16       26       27.3       28.3       04       26       33.9         28       36.2       39.8       20       28       28.0       28.2       04       -20.5       30       24.9       25.4       22 00       -19.6       30       30.0         32       37.3       43.0       23       32       33.0       34.3       13       32       23.0       24.8       21.58       32       30.0 </td <td></td> <td>38.2 39.7</td> <td>21</td> <td></td> <td></td> <td>36.6 37.2</td> <td></td> <td></td> <td></td> <td></td> <td>04</td> <td></td> <td></td> <td>36.6</td> <td>38.8</td> <td>19 23</td> <td></td>		38.2 39.7	21			36.6 37.2					04			36.6	38.8	19 23	
28   36.2   39.8   20   21.0   28   33.8b   13   20   25.0   25.3   00   30.0					24	40.5 42.0	25		24	1 2 /			11			28	
30     36.5     42.0     22     21.0     30     28.0     28.2     04     -20.5     30     24.9     25.4     22 00     -19.6     30     30.0       32     37.3     43.0     23     33.0     34.3     13     32     23.0     24.8     21 58     32     30.9       34     34.0     38.6     17     36     30.6     32.3     09     36     22.1     23.8     56     36     37.4       38     25.0     32.7     05     38     30.7     32.5     10     38     23.9     24.9     58     36     37.4       40     29.8     35.0     11     40     31.5     33.5     11     40     23.2     24.4     57     40     36.9       42     33.2     38.6     16     42     31.0     33.0     10     42     22.1     23.8     56     42     36.1       44     32.8     39.8     17     -21.0     44     31.1     33.0     10     -20.5     44     20.9     22.3     54     -19.7     44     36.0		38.0 41.2				35.5 35.8 33.8b	1					-		33.9	30.1 28.8	05	
34     34.0     38.6     17     34     33.3     34.8     13     34     24.0     25.3     59     34     35.0       36     28.3     32.5     08     36     30.6     32.3     09     36     22.1     23.8     56     36     37.4       40     29.8     35.0     11     40     31.5     33.5     11     40     23.2     24.9     58     38     40.8       42     33.2     38.6     16     42     31.0     33.0     10     42     22.1     23.8     56     42     36.1       44     32.8     30.8     17     -21.0     44     31.1     33.0     10     -20.5     44     20.0     22.3     54     -10.7     44     36.0	30	36.5 42.0	22	21.0	30	28.0 28.2	04	-20.5	30	24.9 25.4	22 00	-19.6	30	30.0	34.8	11	-19
36     28.3     32.5     08     36     30.6     32.3     09     36     22.1     23.8     56     36     37.4       38     25.0     32.7     05     38     30.7     32.5     10     38     23.9     24.9     58     38     40.8       40     29.8     35.0     11     40     31.5     33.5     11     40     23.2     24.4     57     40     36.9       42     32.3     38.6     16     42     31.0     33.0     10     42     22.1     23.8     56     42     36.1       44     32.8     30.8     17     -21.0     44     31.1     33.0     10     -20.5     44     20.0     22.3     54     -10.7     44     36.0	34				34											12	
40   29.8   35.0   11   40   31.5   33.5   11   40   23.2   24.4   57   40   36.9   42   33.2   38.6   16   42   31.0   33.0   10   40   40   40   40   40   40   4	36	28.3 32.5			36	30.6 32.3	_		36	22.1 23.8	56	-	36	37.4	42.0	23 28	
44 32.8 39.8 17 -21.0 44 31.1 33.0 10 -20.5 44 20.9 22.3 54 -19.7 44 36.0	40		11			31.5 33.5	11		40		57		40	36.9	41.1	21	
46 27 8 22 0 27 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		33.2 38.6		-21.0			1	-20.5								20 19	-20
40 33.3 40.7 10 40 31.0 35.0 11 40 20.2 21.1 52 40 30.7	46 48	33.3 40.7	18		46	31.8 33.0	11		46	20.2 21.1	52	79.7	46	38.7	41.8	23	
50   40.0   45.3     28           50     29.7   31.2       08	48 50								50	22.8 24.3 25.5 26.0	2I 57 22 0I		48 50			14	
52   41.0   46.3   20	52	41.9 46.3	29		52	31.6 33.0	II		52	26.6 28.7	03		52	37.9	41.8	23	1
	54 56	36.3 37.3	18		54 56	31.3 32.3	10		56	32.I 33.3	11		54 56	38.1	41.3	2I 22 27	

Observers—W. J. P and R. R. T., who alternated from 15h 58m to Observer—R. R. T. 16h 08m.

Wedn	esday, April	13, 1904	ŀ			Magn	et scale e	erect	Thur	sday, Ap	ril 14	, 1904			Ma	gnet s	cale inve	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	Scale readin	gs	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp. C.
h m 20 00	d d	22 28	-20.0	h m	d	d 44.8	0,	-20.I	h m	d	đ	0 /	-10. I	h m	đ	đ	。 , 22 22	-19.2
02 04 06 08.6 10	41.1 44.3 41.2 43.9 40.7 43.9 42.1 44.8 41.9 44.2	27 27 26 28 28	20.0	02 04 06 08 10	44.0 43.9 45.0 45.0 46.3 47.3	45.2 46.1 46.7 48.0 48.8	22 30 30 32 32 34 35	20.1	02 04 06 08 10	59.9 5 59.9 5 60.0 5 59.5 5 59.8 5	55.9 56.9 57.2 57.9 57.6	22 20 20 20 20 20 20 20	-ig.1	03 04 06 08 10	57.9 57.8 58.3 58.9 59.0 58.7	57.1 58.1 57.9 57.3 57.2 57.2	2I 2I 2I 2I 2I	-19.2
12 14 16 18 20 22	40.8 43.3 36.5 38.3 39.9 40.7 39.2 41.2 37.7 38.8 39.8 46.3 38.5 40.0	23 20 28	-20.0	12 14 16 18 20 22 24 26	46.9 45.8 46.1 47.2 46.3 46.6 47.0	48.3 47.0 47.3 48.8 47.8 47.8	35 33 33 35 34 34 34 35	-20.2	12 14 16 18 20 22 24	60.0 5 60.3 5 61.0 5 61.3 5 63.1 6	58.7 58.5 58.9 59.0 59.4 61.3	19 19 18 18 17 14	-19.1	12 14 16 18 20 22 24 26	50.0 59.3 59.4 59.8 59.1 59.0 58.9	56.3 56.0 56.2 56.2 56.0 56.1	21 22 21 21 22 22 22	-19.2
26 28 30 32 34 36 38	38.1 39.0 41.1 41.9 40.0 40.7 42.2 44.0 43.3 44.9 43.2 44.9 42.7 44.1	25 23 28 29 29	-20.0	28 30 32 34 36 38	46.0 45.5 45.1 46.6 50.2 40.4 47.9	47.3 46.8 46.2 47.0 51.0 49.1 48.8	33 32 32 34 39 30 36	-20.2	26 28 30 32 34 36 38	63.2 6 64.0 6 64.5 6 65.0 6	61.6 62.0 62.6 62.9 63.8 64.0	14 14 13 12 11 11	-19.1	26 28 30 32 34 36 38	58.7 58.1 57.6 56.9 56.9 56.5	55.5 54.2 54.9 54.9 53.5 53.8 53.9	22 24 24 24 25 25 25	-19.2
40 42 44 46 48 50 52	43.9 45.5 45.3 47.0 46.7 48.0 46.1 47.3 44.0 45.4 42.6 44.0 42.8 44.0	32 34 33 30 28 28	-20.0	40 42 44 46 48 50 52	40.9 47.3 46.1 46.2 47.6 47.8 47.9	48.3 48.7	31 35 33 33 35 35 36 36	-20.2	40 42 44 46 48 50 52	62.3 6 60.5 6 58.9 5 58.1 57.4	63.0 61.8 60.2 58.2 57.0 56.2 55.0	12 15 17 20 22 23 24	-19.2	40 42 44 46 48 50 52	55.3 54.3 53.0 52.2 51.8 50.0 51.8	53.0 52.9 51.1 51.2 51.0 50.2 50.5	27 28 30 31 31 33 32	
54 56 58 21 00 02 04 06	43.9 45.0 44.9 46.0 44.2 45.4 44.1 45.0 45.0 45.4 45.0 46.0 46.3 46.9	31 30 30 31 32 33	-20.0	54 56 58 23 00 02 04 06 08	48.2 48.7 48.0 47.8 48.8 49.1 49.9	49.3 48.9 48.9 49.2 50.0 50.8	37 36 36 37 38	-20.2	54 56 58 17 00 02 04 06	56.8 56.1 55.0 55.4 54.2 54.2	55.0 55.0 54.1 52.6 53.2 51.1 50.5	24 24 25 28 27 29 30	-19.2	54 56 58 19 00 02 04 06	51.7 51.8 52.2 52.8 52.9 53.1 53.0	50.9 51.8 52.0 52.8 52.0 52.2 52.1	31 30 29 30 29 30	-19.3
08.2 10 12 14 16 18 20 22	46.8 47.5 47.2 48.0 48.0 48.8 49.1 40.8 48.0 48.9 48.8 49.1 48.1 49.0 47.9 48.7	35 36 38 36 37 36	-20.0	10 12 14 16 18 20 22	50.7 50.8 49.7 48.7 48.2 48.0 47.9 48.9	50.3 49.2 49.0 48.7 48.2	41 38 37 36 36 36 35	-20.2	08 10 12 14 16 18 20 22	52.8 51.5 51.1 51.2 51.1 51.7	50.0 50.2 49.3 49.1 49.5 49.9 50.2 50.8	31 31 33 33 33 33 32 32	-19.2	08 10 12 14 16 18 20 22	53.0 53.8 54.2 53.2 52.3 52.8 52.3 52.0	52.2 51.8 51.0 51.1 50.3 50.0 40.4 48.5	29 29 30 31 31 32 33	-I9. 3
24 26 28 30 32 34 36 38	47.7 48.4 47.1 47.8 46.1 46.6 46.2 46.8 46.6 46.8 46.2 46.2	34 33 33 33 33 34	-20.0	24 26 28 30 32 34 36 38	49.1 49.6 50.0 50.3 50.2 50.0 49.9 50.2	50.6 51.0 50.7 50.3 50.3	38 39 39 39 39 39	-20.2	24 26 28 30 32 34 36	52.3 53.2 53.2 54.0 54.3 54.9	51.5 50.0 50.2 49.8 50.1 50.7 51.0	31 32 31 31 30 30 29 28	-19. I	24 26 28 30 32 34 36 38	51.4 51.5 50.4 48.9 48.4 48.0 50.8	48.2 48.5 47.4 46.2 46.8 44.8 46.0	37 37 39 36	
40 42 44 46 48 50	45.3 45.9 45.7 46.0 46.1 46.7 47.8 48.2 46.3 47.0 46.1 46.8 45.7 46.2 43.7 44.2	32 33 35 33 33 32	-20. I	40 42 44 46 48 50 52	51.0 51.9 52.0 52.0 52.9 52.8 52.6	51.4 52.1 52.5 52.1 52.9 53.0	40 42 42 42 43	-20.2	38 40 42 44 46 48 50 52	55.3 56.8 57.3 58.0 57.4 58.3 58.2	51.6 53.8 53.2 53.1 54.2 55.1 55.1	26 26 26 25 24 24 24 23 23	-19.1	40 42 44 46 48 50 52	53.5 54.0 54.2 53.0 52.6 52.9 52.0	49.2 50.5 51.1 49.7 49.5 49.2 48.8	31 30 29 31 32 32	-19.8
52 54 56 58	43.7 44.2 42.1 42.8 41.0 41.9 42.1 43.1	27 25		54 56 58 24 00	52.7 52.3 52.2	53.1 53.0	43 43 42	-20.3	54 56 58	58.0	55.8 55.9	22 22 22		54 56 58 20 00	50.5 49.0 49.0 49.5	48.0 47.8 48.1	35 36 36	5

Correction to local mean time is — 1m 16s. Torsion head at oh oom read 35° and at 24h 10m read the same. Observer—R. R. T. Correction to local mean time is — 55s.

Torsion head at 15h 30m read 33° and at 20h 19m read the same.

Observer—J. V.

#### SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

#### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Frida	ıy, April 15,	1904				Magn	et scale	erect	Sund	ay, Ap	ril 17,	1904			M	agnet :	scale inv	rerted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d d	0 ,	0	h m	d	đ	0,	•	h m	đ	đ	0 ,	0	h m	d	d	0 /	•
20 00 02	36.8 39.2 38.9 41.7	22 22 25	-23.0	22 00 02	34.0	34·4 34·0	22 I6 I4	-24.2	0 00*	50.0 50.1	49·3 49·5	22 36 36	-19.2	2 00 02	50.9	50.1 49.7	22 34 35	-17.0
04 06	40.0 42.5 40.9 43.0	27 28		04 06	34.0 34.4	34.8 35.0	16 16		04 06	49.2	47·9 47·2	38		04 06	50.8	49.3 49.1	35 36	
08 10	41.0 43.8 39.0 41.1	28 25		08	35.0 37.2	35·5 37·8	17 21	-24.4	08 10	47.8 46.7	46.3 45.7	40 41		08	50.3	49.1 49.2	36 35	
12 14	37.2 39.9 33.2 36.7	22 17	-23.2	I2 I4	37.2 37.7	37.8 38.0	2I 2I		12 14	46.0 46.0	45.I 45.I	42 42	18.9	12 14	50.8 50.8	49.8 49.9	35	-17.8
16 18	33.4 36.9 34.7 37.3	17		16	37.2 37.7	38.1 38.2	2I 2I		16	46.0	45.7 46.0	42	10.9	16 18	50.3	49.2 48.6	35 36 36 38 38	17.0
20 <b>2</b> 2	35.5 38.9 36.0 38.6	20		20	37.0 38.2	39.0	22 23		20	46.3	46.0	41		20 22	48.9	47.7	38	
24 26	36.0 30.0 36.3 38.2	2I 20		24 26	39.0	41.0	25		24	45.9	45·4 45·3	42 42		24 26	48.9	47.7 47.0	39	
28	35.4 37.3	10 18	00.6	28	39.0	41.0	25 26 26		26 28	45.8 45.9	45·3 45·4	42 42		28	48.6 48.2	47.0 46.7	39 39	
30 32	35.9 36.8	10	-23.6	30 32	40.I 4I.2	42.I 42.3	27	-24.4	30 32	46.2 46.7	45.8 46.2	42 41	-18.9	30 32	47.9	46.1 47.2	40 39	-17.6
34 36	35.4 36.2 34.5 34.8	18		34 36	42.I 40.I	42.4 41.0	27 25		34 36	47.0 46.2	46.3 45.8	4I 42		34 36	48.8	47.1 47.9	39 38 38 38	
38 40	34.0 35.1 31.9 36.3	16 16		38 40	39·3 37·7	40.9 38.2	25 21		38 40	45.7	45.0 45.1	43 42		38 40	48.0 48.8	47.7 47.6	38 38	
<b>42</b> 44	32.0 36.1 32.0 36.1	15	-23.9	42 44	36.1 35.7	37.0 36.1	18	-24.3	42 44	46.0 46.4	45·4 45·7	42 42	-18.7	42 44	48.1	47.1 46.6	39 40	-17.3
44 46 48	31.9 35.3 34.0 37.2	15		46 48	35.0 36.8	35·9 37·2	18		44 46 48	47.2 47.1	45.9 46.0	41		46 48	47.8 47.6	46.2 46.1	40 40	
50 52	33.2 36.6 34.0 36.2	17		50 52	36.9 37.7	37.7 38.3	20 22		50 52	47.1 47.9	46.1 46.9	4I 39		50 52	47.1 47.6	45.9 46.3	4I 40	
54 56	34.0 37.0 35.8 37.2	18		54 56	38.0 38.0	38.8	22 22		54 56	48.0	47.2 47.4	39 39		54 56	47.0 46.9	46.0 45.8	4I 4I	
58 21 00	36.2 37.8 37.3 38.9	20 22	-24.0	23 00	38.4 38.9	39.1	23 24	-24.3	58 1 00	48.0	47.8 47.8	39	-18.3	58	46.2	45.I	42	-17.2
02 04	37.9 30.0 37.2 38.2	22 2I	2410	02	39.4	40.2	24	-4.0	02	48.2	47.7	39 39	~10.3	3 00	45.6 45.0	44.2	43 45	-17.2
o6 o8	38.0 39.6 38.3 40.1	23		o6 o8.5	39.9	40.5	25 25		04 06	48.2	47.7 47.8	30 38		04 06	44·7 44·5	42.9 42.8	45 45	
10	38.9 40.3	24 24		ro	30.2	40.0	24		10	48.4 48.1	47.8 47.3	38 39		08	44.0	43.1 43.3	45 45	
14	38.1 39.9 38.9 40.0	23 24	-24.2	12 14	39.3 30.1	40.2	26	-23.3	12 14	47.9	47.0 47.1	39 39	-18.1	12 14	46.1 47.2	44.8 45.7	43 4 <u>1</u>	-17.2
18 18	37.3 30.0 36.9 38.2	22 21		18	38.3 38.7	40.2	24 24		16 18	48.7	47.2 47.8	30		18 16	40.0	47.2 46.9	38 39	
20 22	36.3 37.8 36.9 38.1	20 21		20 22	37.2	41.5 42.0	24 25		20 22	40.0	47·7 47·3	38		20 22	47.8	46.2 45.8	40 41	
21 26	37.4 38.3 38.9 39.9	21 24		24 26	38.9	44.0	26 28		24 26	47.9 47.1	47.1 46.7	30 40		24 26	46.9	45.0 46.8	41 40	
28 30	39.6 40.9 39.9 40.9	25 25	-24.2	28 30	41.0 42.0	44 · 9 45 · 7	29 31	-24.2	28 30	46.0 45.5	45.8 45.1	42	-18.o	28 30	47.7 47.6 45.8	45.I 43.3	41 44	17.0
32 34	39.7 40.0 39.8 40.1	24 25		32	42.7	45.9 45.2	32 31		32 34	45·7 45·9		43 42		32 34	44.8	42.7 40.3	45 48	
36 38	39.8 40.2 39.8 40.0	25 25		36 38	41.9 41.5	44.8	30 30		36 38	46.1		42 41		36 38	42.8 41.7	40.3	49 50	
40 42	39.8 40.1 37.8 39.8	25 23		40 42	41.8	44.8	30 30		40 42	47.I 47.7	46.7	40		40	40.0	38. I	53	
44 46	36.3 38.1 35.4 36.8	20	-24.3	44 46	4I.9 4I.2	44.7 44.2	30 29	-24.3	44 46	48.3	48.0	30 38	_17.0	42 44 46	30.7 38.9 38.0	37.2	53 54 56	-17.0
48	35.9 36.8 35.8 36.9	19		48	41.1		29		48.4	49.7	49.7	37 36	-17.9	48	37.0	35.2	57	1
50 52	35.2 36.3	18		52	40.9	43.0	28		50 52	49.2	48.9	37 37		50 52	37·5 37·3	36.0 36.0	56 56 56	
54 56 <b>58</b>	35.0 35.5 35.1 35.7	18		54 56	40.7	42.8	27 28		54 56	48.8 48.9	48.8	38 37		54 56 58	37.2 36.7 35.8	36.0 35.6	57	.
58	34.5 35.0	16		58 24 00	41.8	43·5 44·I	29 30	-24.0	58	50.3	49.9	35		58	35.8	34-3	59	

Correction to local mean time is — Im o6.5s.

Observer-J. V.

Torsion head at 19h 20m read 34° and at 24h 17m read the same.

hr'r me	Scale readin	gs	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp C.
m	d	d	· ,	•	h m	*d d	0 ,	0	h m	d d	0 ,	0	h m	đ d	. ,	0
00	69.7 7	4.3	23 00	-16.8	6 00	43.0 44.0	23 12	-16.0	8 00*	42.9 40.2			10 00	27.8 22.2	22 58	-16.1
02 04		4.8	0I 0		02 04	43.1 44.2 45.0 46.0	12		02 04	41.8 38.8 42.3 40.4	_	İ	02 04	33.0 31.0 37.0 35.9	46 39	
<b>о</b> б		75.0	01		06	44.2 45.2	14		06	45.2 43.8	1	-17.0	<b>o</b> 6	35.0 33.0	43	
08 10		4.3	00		08	41.6 42.7	08		08	45.4 44.1 48.0 45.5			08 10	37.I 35.2 36.0 36.0	40 40	
12		72.I 73.I	10		12	40.1 41.9	08		12	43.8 43.3	1		12	37.0 36.0	39	
14	73.1 7	73.7	02	-16.8	14	41.0 42.3	09	-15.9	14	44.1 42.1	14	-17.0	14	29.2 28.0	52	-15.6
6 8		74.9 75.1	04		16 18	39.9 40.7	07 05		16	44.2 40.9 46.2 41.1			16 18	30.4 28.0 35.1 34.9	51 42	
20		76.o	06		20	37.9 38.9	04		20	55.6 52.0			20	40.2 38.8	35	
22	76.2 7	7.I	07		22	40.0 40.6	07		22	53.1 51.1	59		22	47.0 45.8	24	
4 6*		78.0 13. ī	09 07		24 26	39.8 40.3 39.1 39.9	06 05		24 26	60.2 56.2   61.7 58.2			24 26	49.9 47.6 47.6 46.9	20 22	
8	39.1 4	ы. µ.8	09		28	42.2 43.2	10		28	65.0 62.8			28	44.3 43.2	28	
0	39.3 4	ļ5.0	IO	-16.7	30	40.1 41.0	07	-15.9	30	72.3 69.8		-17.I	30	48.3 47.1	22 28	-15.2
2		15·3 15·3	10 14		32	37.8 38.1 36.9 37.4	03		32* 34	54.0 52.1 52.1 51.2			32 34	44.3 42.8 44.0 41.8	19	
4 6 8		µ.9	10		34 36	37.I 37.7	02		34 36 38	54.9 52.2	19		34 36 38	48.2 46.7	22	
8		<b>16.0</b>	12		38	36.9 37.4 37.6 38.0	02			52.9 50.6			38	51.1 50.0 51.5 50.5	17 16	
0		17.2 17.3	14 14		40 42	37.6 38.0 38.3 38.8	03		40 42	54.7 53.7 53.9 51.5			40 42	51.5 50.5 48.1 46.5	22	
4		16.9	14	-16.7	44	36.3 37.0	OI	-15.8	44 46	48.0 46.5	29	-17.0	44	43.2 42.5	20	-15.0
14 16 18		17.5	15	}	46 48	36.3 37.6 35.0 36.0	23 OI 22 59		46 48	40.3 39.2			44 46 48	44.0 42.8 41.9 40.2	28 32	
10 50		18.9 18.9	17		50	35.0 36.0 35.8 36.8	23 00		50	35.0 34.2 38.3 35.8	49 45		50	41.0 39.8		
52		18. I	16	}	52	32.I 33.I	22 54		52	37.0 35.2	46		52	44.1 43.1	33 28	
54	44.2	17. I	15 16		54 56	35.8 37.0 34.6 35.4	23 00 22 58		54.3 56*	65.0 <i>b</i> 55.8 51.8	22 01		54 56	47.5 46.2 49.8 48.8	23 19	
56 58		17.2 16.0	14		58	35.0 36.0			58	38.3 35.0	22 14		58	52.0 50.5	16	
00		14.7	12	-16.7	7 00	34.1 36.1	59 58	-15.7	9 00	40.3 37.7		-17.0	11 00	44.0 42.7	28	-14.8
02		15.9	13		02 04	29.00 34.1 34.4	49 57	1	02 04	40.0 37.0 38.5 36.0			02 04	45.9 48.0 48.0 46.0	23	
04 06		17.7 17.9	16		06	17.00	30		об	38.4 35.1			06	49.7 49.3	18	
8	44.1 4	16.0	14		08	15.70	28		08	42.0 40.0			08	51.0 50.5 47.1 47.0	16 22	
10 12		17.4	16 <sup>-</sup>		10 12	33.6 34.8 34.3a	57 22 57		10 12	46.0 44.8 42.8 42.0			10 12	47.1 47.0 42.8b	29	
14		15.3 16.8	14	-16.5	14	44.8 45.6	23 14	-15.3	14	47.0 46.1	21 58	-16.9	14	39.2 38.2	35	-14.
гб	44.3 4	6.9	15		16 18	47.7 48.8 46.1 46.3	23 IÓ		16 18	47.0 46.0			18	40.2 40.0	33	
18 20		15·7 14·7	13		20	32.6b	22 54		20	49.0 47.0 31.0 40.0			20	39.9 <i>a</i> 43.0 42.0	33	
2		3.8	10		22	32.2 32.8	22 54		22	42.2 40.9	22 06		22	40.0 39.5	34	
4	40.2 4	2.7	08		24	37.I 37.8 41.I 4I.9	23 02 08		24 26	50.4 48.0 55.3 54.2			24 26	34.8 34.0 31.0 30.3	42 48	
8		2.9  4.1	<b>0</b> 9		26 28	41.1 41.9 46.2 47.8	23 17		28	55.3 54.2 34.1 29.8	22 21		28	33.0 32.5	44	
0	40.1 4	1.8	08	-16.3	30	31.3 32.7	22 54	-15.0	30	36.9 33.0	15	-16.9	30	40.1 39.6	33	-14.
2.2	45.0 4	7.0	16		32	29.2 30.7 30.3 30.0	50 51		32	45.5 41.8 32.2 28.9	02		32 34	37.6 <i>b</i> 41.5 41.0	37 31	
4	45.I 4 4I.9 4	б. і 4.8	15		34 36	32.0 32.8	54		34 36	29.0 22.0			36	40.3 39.2	33	
4 6 8		3.3	09	•	38	31.1 32.0	53		38	22.1 17.0	40		38	50.0 48.0		
0	41.5 4	4.7	II		40	30.8 31.5 28.9 20.3	52 49		40 42	18.8 12.0 23.0 19.4			40 42	47.2 47.1		
2		5.2 5.7	12 12	-16. <b>1</b>	42 44	27.9 28.9	48	-14.7	44	34.9 30.0		-16.8	44.3	A 4	36	-14.
4 6 8		5.9	13		44 46	29.1 30.7	50		44 46	34.9 29.2	20		46	40.3 39.9	33	
8	41.0 4	4.6	II		48	29.2 31.0 29.8 32.2	51 52		48	38.2 24.8 22.8 17.9			48	42.9 42.0 45.3 45.1		
0		4.I 4.0	IO		50 . 52	29.8 32.2 29.8 32.0	52		50 52	24.2 21.0			50 52	47.5 48.7	20	
50 52 54 56 8		4.1	11		54 56	29.1 31.0	50		54 56	20.0 16.9	42		54 56	43.00	28	
6		4.9	13		56 58	29.1 30.7 27.7 28.9	50 48		56 58**	13.9 9.1 27.2 21.1			56 58	43.7 43.1 53.1 50.0		

Correction to local mean time is — Im 26s. Torsion head at oh oom read 36° and at 8h oom read the same. Observer—R. R. T. Correction to local mean time is — Im 57.5s. 90° tersion = 16.'13. Torsion head at 7h 25m read 33° and at 12h 26m read 53°. Observer—J. V.

#### SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

#### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Tues	day, April 19	, 1904				Magn	et scale	erect	Wedt	iesđay,	. April	20, 1904	ŀ		M	agnet s	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sc read Left	_	East decli- nation	Temp C.	Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temը C.
h m	đ đ	0 ,	0	h m	d		· ,	0	h m	d	ď	0 ,	0	h m	d	đ	0 /	0
2 00 <del>*</del> 02	49.8 51.2 50.3 52.0	23 04	-16.3	14 00	58.9 50.0	60.1 60.5	23 18	-16.0	0 00	55.7 56.3	52.1	22 18	-17.7	2 00 02	32.9 33.6	30.3 31.1	22 53 51	-16.7
04	52.0 53.8	05 08		02 04	58.0	60.0	18		02 04	56.6	52.I 53.0	17		04	31.7	29.I	54	
o6 o8	53.5 54.9 54.6 55.8	10 12		06 08	56.9 55.9	57.8 57.1	15 14		06 08	57.0 56.9	53.0 52.4	16 16		06 08	32.9	30.7 30.7	52 52	
10	55.0 55.8	12		IO	50.3	52.0	05		10	56.9	52.3	16		10	32.9	30.2	53	
12 14	55.2 56.5 56.0 57.0	13 14	-16.3	12 14	54.2	56.0 56.2	12 12	15.9	T2 T4.2	56.1 55.2	52.3 51.4	17	-17.3	12 14	31.0	29.2 30.0	54 53	-16.4
16 18	55.3 56.0 55.9 56.7	12		16 18	51.9 50.1	54.0 51.2	08 04		16 18	54·3 54.0	50.8 50.7	20 20		16 18	29.9 27.9	27.2 25.8	22 57 23 00	
20	56.1 57.0	14		20	47.9	49.0	OI		20	54.1	51.1	20		20	25.0	22.9	05	
22 24	55.4 56.2 55.8 56.9	13		22 24	46.0	48. I 48. I	23 00 22 50		22 24	56.4 56.9	53·5 54·I	16		22 24	23.6	21.2 20.6	08	
26 28	55.0 56.1 57.2 58.7	12		26 28	45.9	47.0 47.0	58 22 59		26 28	56.3 56.8	54.0	16		26 28	25.3	22.7 22.0	04 06	
30	57.2 58.3	16	-16.2	30	47.2	47.8	23 00		30	57.0	54.1 54.0	15	-17.1	30	24.4	21.2	07	-16.0
<b>32</b> 34	57.7 50.0 57.0 58.1	17		32 34	48.3	40.5 48.5	23 00		32 34	58.8 60.1	56.8 58.4	11		32 34	21.3	18.9 15.7	11	
36	56.5 57.9	15		34 36 38	45.5	46.2	22 57		36 38	62.2	60.6	oố		36	18.1	15.9	15	
38 40	56.1 57.3 56.9 57.5	14 15		40	43.9	45.1 45.0	55 56		38 40	62.8	61.0 61.8	05 04		38 40	21.5	17.2 20.0	14 10	
42	56.6 57.0 56.9 57.4	14	-16.2	42 44	43.2 43.2	44.I 44.I	53 53	-16.0	42 44	63.9	62.0 61.5	03 04	-17.0	42 44	25.0 26.0		04	
44 46	55.8 56.0	13	1012	<b>⊿</b> 6	44.0	45.0	55		46	62.9	61.1	05	17.0	46	27.1	26.0	00	-15.9
48 50	56.0 56.5 57.9 58.1	13 16		48 50	43.2	44.0 42.1	53 50		48 50	63.5	61.5 50.3	04		48 50	24.7 23.1	24.0 22.7	04 06	
52	50.0 59.3 58.7 59.1	18		52 54	36.7 35.3	37.0 36.1	43 41		52	50.6	57.8 57.0	JO		52 54	23.1 25.1		23 04	
54 56 58	57.5 57.9	16		56	36.0	37.0	42		54 56	55.4	53.7	16		56	29.8	28.0	22 56	
58 3 00	57.6 57.9 57.2 57.5	16	-16. I	58 15 00	34.3	35.8 34.0	40 37	-16.0	58 1 00	54.2 52.4	52.5 50.6	18	-17.0	58 3 00	30.4	30.0	55 56	
02 04	57.1 57.9 58.1 58.9	15		02 04	31.3	32.2 30.5	35 32		02	51.8	40.3	23	,	02 04	28.8 27.1	28.1 26.8	22 58 23 00	-15.9
об	58.0 58.7	17		06	27.5	28.1	29		04	50.2	48.1	25 25		06	28.9	28.2	22 57	
08 10	58.0 58.9 60.0 61.0	17 20		08 10	26.I 25.5	27.0 26.2	27 26		08	49.0	47.8 47.7	26 26		08	29.7	29.I 29.2	56 56	
12	59.5 60.5	19	-16. I	12 14	22.3 23.1	23.0 24.0	20 22	-16.o	12	51.1	48.8	24	-16.9	12	31.2	30.0	53 50	-15.9
14 16	60.7 61.0	20 24	-10.1	16	26.2	27.8	27	10.0	14	51.2 52.0	49.0 50.0	23 22	-10.9	14 16	33.2 34.6	34.2	⊿8	-13.5
18 20	64.0 64.8 64.8 65.8	26 28		18 20	27.3 30.1	29.0 31.2	29 33		18	53·3 54·2	51.0 51.8	20 IQ		18 20	34·9 35·3		48 47	
22	63.3 64.2	25		22	29.9	30.8	33 27		22	52.4	49.7	22		22	36.0	35-5	46	
24 26	63.1 64.2 64.5 65.2	25 27		24 26	26.1	28.0	27		24 25	50.0		23 25		24 26	34.5		51	
28 30	63.2 64.9 62.1 64.5	26 24	1 -	28 30	23.0	24.5 25.0	22 23	-16.o	28 30	49.5 47.7	47.0	26 20	-16.8	28 30	32.6	32.0	51 51	-15.8
32	62.0 63.0	23	ŀ	32	22.9	24.7	22		32	45.8	43.0	32	10.6	32	35.4	35.0	47	
34 36 38	61.0 62.0 60.3 61.8			34 36	23.7		23 22		34	45.1	42.8 41.1	33 36		34 36	35.0		46 48	
38	61.2 62.5 60.9 61.8	22		38 40	20.0	21.5 19.1	18		38	43.9	42.I	35		38	33.9	33.2	50 51	
40 42	59.2 59.8	18		42	13.7	15.2	08		40 42		37.2	40 42		40 42	32.0	33.1	50	1
44 46 48	58.2 59.0 59.1 59.7	17 18	-16.0	44 46	13.7	15.4 15.5	08 08	-16.0	44 46	38.3	35.7 33.1	44 48	-16.8	44 46	34.7	34.I 37.0	48 43	
48	59.9 60.1	19		48	8.0	10.9	22 00		48	34.4	32.I	50		48	35.1	34.6	47 38	
50 52	59.9 60.2 59.9 60.0			50 52*	6.5 35.0	8.4 40.0	21 57 54		50 52	33.8	31.2	51		50 52	38.9	40.8 38.1	42	
50 52 54 56 58	57.8 58.1 58.2 58.9	16	1	54 56 58	32.8	38.0	51 46		54 56	33.8	31.4	51		54 56	37.0	36.8 36.7	44 44	
58	59.0 59.6			58	29.9	34.0	46	-6 -	58	32.8	32.0 30.0	53		58	36.4	36.0	45	
				16 00	29.0	32.9	44	-16.0		1								

Correction to local mean time is — 2m 22.5s.

Torsion head at 11h 28m read 42° and at 16h 26m read the same.

Observer-J. V.

Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca read	ings	East decli- nation	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Tem; C.
h m	đ	d	0 ,	•	h m	ď	đ	. ,	0	h m	d	d	. ,		h m	ď	d	0 ,	•
00 02 04 06 08	36.3 36.3 36.0 36.2 36.1	35.9 36.1 35.9 36.0 36.0	22 45 45 46 45 46	-15.5	6 00 02 04 06 08	34.1 29.0 30.8 30.7 31.0	28.0 29.3 30.0 30.0	22 50 57 55 55 55	-15.0	8 00 02 04 06 08	30.4 30.8 30.5 33.0 34.2	29.1 28.8 28.8 30.9 32.8	22 56 55 56 52 50	-15.0	10 00 02 04 06 08	30. I 29.4 32.0 33.5 35.0	28.7 28.0 30.0 31.8 33.3	22 56 57 53 51 48	-14.6
10 12 14 16 18	38.0 37.2 38.8 33.1 36.0	37.7 36.8 38.1 32.8 35.2	43 44 42 50 46	-15.4	10 12 14 16 18	34.1 35.8 34.3 33.1 31.0	34.0 35.0 33.1 31.8 29.2	49 47 49 51 55	-15.0	10 12 14 16 18	32.7 32.0 34.4 35.3 34.3	32.5 30.6 33.6 33.9 33.0	51 53 49 48 49	-14.8	10 12 14 16 18	37.0 38.5 40.0 39.6 38.0	35.5 37.0 38.3 38.0 36.6	45 43 41 41 44	-14.5
20 22 24 26 28	36.8 36.3 35.7 33.2 33.0	32.3	45 45 47 50 51		20 22.4 24 26 28	20.3 28.8 30.1 34.1 33.9	32.7 32.7	57 58 56 50 50		20 22 24 26 28	34.6 35.3 33.8 33.1 29.6	33·3 34·0 33·0 32·5 28·4	49 48 50 51 57 56		20 22 24 26 28	36.0 35.8 36.3 36.6 37.0	34·3 34·2 34·0 34·4 34·4	47 47 47 46 46	
30 32 34 36 38	31.1 33.1 35.1 36.0 33.6	30.4 32.5 34.3 35.3 32.7	54 51 48 46 50	-15.3	30 32 34.3 36 38 40	33.1 34.0 33.8 35.3 34.5	34.6 33.9	51 50 50 47 48 50	-15.0	30 32 34 36 38 40	29.5 30.6 29.4 32.9 33.3	29.0 29.8 28.3 32.2 33.0 31.8	56 55 57 51 50 52	-14.8	30 32 34 36 38 40	36.3 35.3 36.3 37.2 37.3	32.8 32.4 35.3	47 49 49 48 45 45	-14.3
40 42 44 46 48 50	39.0 35.8 32.7 34.9 30.8 28.9	32.1 34.2 30.8 28.9	42 46 51 48 54 57	-15.2	42 44 46 48 50	33.I 29.8 27.0 28.4 29.I 25.8	28.8 25.7 26.8 28.0 24.2	22 56 23 01 22 59 22 57 23 03	-15.0	42 44 46 48 50	32.5 31.6 30.8 32.0 31.8 32.6	31.3 30.3 31.0 31.0 32.0	53 54 53 53 51	-14.8	42 44 46.2 48 50	35.7 35.4 35.6 36.0 35.2	35·3 34·3 34·0 34·8 34·4 34·3	47 48 47 47 48	-14.2
52 54 56 58 5 00 02 04 06	27.9 27.3 28.3 31.8 32.7 33.7 31.7		54 57 58 59 58 52 51 50 53 22 56	-15.2	52 54 56 58 7 00 02 04 06	27.2 28.9 29.3 27.4 30.8 32.0 32.5 32.8	27.8 28.2 26.7	23 00 22 58 57 60 55 53 52 51	-15.2	52 54 56 58 9 00 02 04 06	34.0 32.8 32.3 33.6 34.4 34.3 34.0	33.3 31.8 31.5 33.0 33.6 33.3 33.3	49 51 52 50 49 49 49 50	-14.8	52 54 56 58 11 00 02 04 06	35.6 35.3 35.2 34.6 35.3 35.9 36.4 36.6	36.5	47 47 48 48 47 46 45	-14.
08 10 12 14 16 18	25.4 22.2 25.5 30.0 32.0	24. I 20. 6 23. 9 28. 5 30. 9 30. 0	23 03 09 23 03 22 56 53	-15.0	08 10 12 14 16 18	33.0 31.0 28.0 30.8 33.2 32.8	32.0 29.8 27.0 29.9 32.1	51 54 59 54 51 52	-15.0	08 10 12 14 16	33.6 31.3 32.3 35.3 36.3 33.5	32.5 30.3 31.0 34.4 34.7 31.9	50 54 52 47 46 51	-14.7	08 10 12 14 16	36.0 36.1 35.5 35.0 35.3		45 46 46 47 48 47	-14.
20 22 24 26 28	31.0 28.8 28.3 28.3 28.1 30.3	27.4 27.1	54 58 59 59 59 56		20 22 24 26 28	34.1 35.1 30.8 27.9 31.1	32.9 33.7	50 48 54 60 54		20 22 24 26 28	34·3 33.8	33.0 32.3 33.0 35.0 35.0	49 50 49 46 46		20 22 24 26.2 28	35.4 35.1 35.0 34.7	35.2 34.6 34.7 34.3	47 47 47 48 48	
30 32 34 36 38	32.4 33.8 33.9 33.1	31.2	52 50 50 51 55	-15.0	30 32 34 36 38	34.9 33.7 30.0 32.0 33.9	34.0 33.0 29.3 32.0	48 50 56 52 50	-15.0	30 32 34 36 38	36.7 35.0 34.4 34.3 36.4	35.1 34.0 32.6 32.6 33.7	46 48 50 50	-14.6	30 32 34 36 38	35.3 36.3 36.8 37.8 39.0 35.8	36.3 37.3 37.6	45 45 43 42 47	-14.
40 42 44 46 48	29.1 33.2 36.0 34.0	28.1 31.8 35.0 33.8 26.9	57 51 46 49 60	-15.0	40 42 44 46 48	33.3 28.9 32.1 33.2 33.0	32.2 28.2 30.6	51 57 53 51 51	-15.0	40 42 44 46 48	34.0 34.4 34.6 33.6 36.1	31.4 32.0 32.0 31.1 33.8	51 50 50 51 47	-14.6	40 42 44 46 48	36.4 36.6 38.2 39.7 41.3	35·3 35·7 37·2 38.6 40.0	46 45 43 41 38	-14.
50 52 54 56 58	29.8 32.2 34.0 34.4	29.2 31.7 33.8 34.1 37.0	56 52 49 48 44		50 52 54 56 58	29.7 29.7 30.2 31.5 30.6	27.2 27.9 28.9 30.3	58 57 56 54 55		50 52 54 56 58	36.6 34.9 34.3 33.4	35.0 33.0 33.3 32.6 31.5	46 49 49 50 52		50 52 54 56 58	40.6 39.3 39.6 39.4 40.5	38.3 38.8 39.3	39 41 41 41 39	

Observers—R. R. T. and W. J. P., who alternated from 7h 56m to Observer—W. J. P. 8h o6m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

		il 20, 190	†	II	141	mgiict i	scale inv	- Let		uay	, ripin	20, 1904	[	11	141	w61166 i	scale inv	er red
Chr'r time	Scale readings Left Righ	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Tem C.
h m	đ đ	. ,	•	h m	d	d	0 ,	•	h m	đ	d	· ,	•	h m	d	ď	0 ,	
2 00 02	40.1 39. 40.1 39.		-14.0	14 00	46.0 45.3	44·7 44·3	22 3I 32	-14.2	16 00 02	45.2 45.1	44·9 44·3	22 32 32	-14.4	18 00	42.6	42.2 40.8	22 36 38	-14.:
04 06	40.3 39.	40		04 06	45.3	44.5	32		04 06	44.3	43.9	33		04 06	40.1 40.4	40.0 40.1	39	
08	39.3 38.	7 41		08	45.3 45.1	44.I 44.I	32 32		<b>o</b> 8	45.0	44.2 44.7	32 32		08	41.1	41.0	39 38 36 36 36 36	
10 12	39·3 39· 40·3 39·			10	45.0 44.5	43·9 43·3	32		10 12	45.6	45.0 45.2	32 31		I0 I2	42.0	41.9 42.2	36 36	
14	39.3 39.	3 40	-14.0	14 16	44.5	43.3	33	-14.2	14 16	45.9 46.9	45.9 46.3	30 29	-14.1	14 16	42.0 42.5	41.9 42.1	36	
16 18	40.1 39.	5 40 2 39		18	44·3 45.0	43·7 44·7	33 32		18	46.8	46.4	29		18	43.0	42.8	35	
20 22	41.0 40. 41.0 40.			20 22	45·4 44·7	45·3 44·3	31 32		20 22	46.7	46.2 46.2	29 30		20 22	43.0	42.7	35 36	
24 26	41.3 40.	38		24 26	46.0	45.6	30 28		24 26	47.9	47.0	28 28		24 26	42.0 42.3	4I.4 4I.0	37	
28 28	40.2 39.			28	47·5 47·3	47·3 47·I	28		28	47.9	47.2 47.2	28		28	40.9	40.3	37 38 38	
30 32	41.0 40.		-I4. I	30 32	47·3 48·3	47.2 48.0	28 27	-14.3	30 32	46.5	46.2 45.6	29 30	-14.0	30 32	41.3	41.0 42.3	38	-14.
	40.3 39.	40		34	48.9 48.8	48.3	26 26		34 36	45.8	45.2	31		34 36	44.2	43.8	33 31	
34 36 38	41.3 40. 42.1 41.	36	i	34 36 38	51.0	48.4 50.3	23		38	45·3 45·9	45.0 45.3	31 31		38	45·3 45·9	45.3	31	
40 42	40.8 40.0 39.3 39.0	38		40 42	50.1 49.3	49.8	24 25		40 42	45.3	45.9 45.0	30 31		40 42	45.8 45.4	45·4 45·I	31 31	
44	40.6 40.0	39	-14.2	44	48.1	47.9 47.8	27	-14.3	44	44.2	44.0	33	-14.0	44 46	44.8	44.3	32 32	-14
44 46 48	43.6 43.0 45.2 45.0			44 46 48	48.3	47.0 47.1	27 28		44 46 48	44.7	44.I 44.7	32 32		48	44.5	44.I 44.I	32	
50 52	46. <b>0</b> 44 46.5 45.	31		50 52	48.2 42.6	47·4 41·7	27 36		50 52	45.2	45.0 44.8	32 32		50 52	44.6 44.9	44.I 44.9	32 32	
54 56	45.8 44.	31		54	48.6 49.8	47.9	26		54 56	45.0	44.7	32		54 56	45.I 44.8	45.0 44.6	32 32	
58 58	43.2 42.	35		54 56 58	50.0	49.3	25 24		58	45.2 45.1	44.9 44.9	32 32		58	44.0	44.0	33	
00 02	43.6 42. 42.8 41.		-14.3	15 00	48.1 46.6	47·5 46.0	27 29	-14.4	17 00 02	45.7	45·3 45·2	31 31	-14.0	19 00 02	44.0 43.1	43.8 43.0	33	-14.
04	42.3 41.	36		04 t 06	46.0	45·3 46.6	3I 28		04 06	45.I 44.8	45.0	32		04 06	42.2	42.I 42.2	35 36 36	
об 08	40.9 40.	39		08	47.5 46.0	44.8	31		08	44.3	44.I 44.0	32 33		08	42.4 42.1	41.9	36 36	
10 12	41.5 40.0			10 12	46.2	45·3 47·3	30 27		10 12	44.3	44.I 44.0	33		I0 I2	42.0 41.9	41.8	36	
14	43.3 41.	1 36	-14.3	14	50.0	48.6	25	-14.5	14 16	43.8	43.2 42.8	34	-14.1	14 16	41.6	41.2 41.0	37 38 38	-14.
16 18	45.8 44. 47.0 46.	1 29		18	49.6 49.4	48.2 47.9	25 26		18	43.0 43.1	42.9	35 35		18	41.0	41.0	38	
20 22	47.7 46.48.0 47.	28 27		20 22	48.0 46.0	46.6 44.5	28 31		20 22	43.5	43.0 43.0	34 34		20 22	40.8	40.7 40.0	38 39	
24	48.2 47.	5 27		24	44.8	43.6	33		24	43.2	43.0	34		24 26	39.2	39.2	41	ļ
20 28	49.7 49. 51.6 51.	22		26 28	45·3 47·3	44·3 45·7	32 29		26 28	43.9	43.8 44.1	33		20 28	39.9 40.2	39.8 40.0	40 39 36	
30 32	51.8 51. 51.3 51.		-14.2	30 32	48.5	47·3 47·8	27 26	-14.6	30 32	46.2	46.0 46.9	30 28	-14.2	30 32	41.9	41.8	36	-14
34	52.3 51.	7 20			48.0	47.2	27		34 36	47.0	46.3	29		34 36	42.4	42.2	36	
36 38	54.3 53.3 52.			34 36 38	46.0 45.2	44.9	31 32		38	45.0	44.8 43.4	32 34		38	43.5 43.1	43.3 43.0	34 35	
40	51.1 50.		-	40 42	44·3 43·3	43.6 43.3	33 34		40 42	43.8	43·4 43·4	34		40 42	43.8	43.6 43.3	34 34	
42 44	54·3 53· 52.6 52.	20	-14.3	44 46	44.3	44.0	33	-14.6	44	44.0	43.9	·/ 33	-14.2	44	44.9	44.7	32	-14
46 48	52.0 51.5 51.0 50.	3 22		46 48	44.5 44.6	44.0 44.3	33 32		46 48	43.2 43.2	43.2 42.9	34		46 48	44.8 44.1	44·4 43·9	32 33	
50	47.8 47.0	27		50	45.2	45.2	31 31		50 52	44.9 45.1	44.8	32 32		50	42.9 42.0	42.5 41.3	35	
52 54	46.7 45. 52.0 51.	21		52 54	45.2 45.0	45.0 44.9	32		54 56	45.2	44.9	32		52 54	41.1	40.8	37 38	
54 56 58	52.3 50.9 46.5 45.2			54 56 58	44·3 44·7	44.0 44.3	33 32		56 58	44.8	44.0 43.2	32 34		56 58	4I.0 4I.4	40.9 41.0	38 37	

Observers—W. J. P. and J. V., who alternated from 15h 46m to Observer—J. V. 16h 00m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Chr'r time		ale	TO.		11														1
	Left	lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Гет; С.
^ ^	d	d	• ,	•	h m	d d	d	0 /	0	h m	d		0,	•	h m	d	——d	• ,	-
02	41.5 40.3	41.I 40.2	22 37 39	-14.8	22 00 02	46.I 47.I	46.0 46.8	22 30 28	-14.9	16 00 02	54.2 54.2	56.2 56.0	22 27 27	-11.8	18 00 02	55.7 55.2	55·9 55·7	22 28 28	-10.9
<b>0</b> 4 <b>0</b> 6	40.7 41.3	40.5 41.1	38		04	48.3	48.0	27		04	54.2	56.0	27 28		04	55.0	55.3	27 28	
o8	41.5	41.2	37 37		o6 o8	47.0 46.0	46.8 45.3	28 31		06 08	54.8	56.1 56.8	28 28		o6 o8	55·3 55.8	55.9 56.0	28 28	
IO I2	41.8	41.I 42.I	37 36		10	46.7	46.0	29		10	55.0	56.3	28		10	56.0	56.4	29	
14	41.9	41.3	37	-14.8	I2 I4	46.0 46.0	45.9 45.8	30 30	-14.9	I2 I4	54·5 54·2	56.0 55.8	27 27	-11.5	12 14	56.7	56.8 56.8	30 30	-10.9
16 18	41.1 42.1	40.9 41.3	38 37		16 18	44.9	44.4	32		16	55.1	56.9	29	-	16	56.2	56.2	29	
20	42.8	42.I	36		20	44.2	44.0 43.7	33 33		18 20	55·7 54.6	57.0 56.0	29 28		18 20	56.1 56.2	56.2 56.8	29 30	
22 24	43.9 44.0	42.9 43.0	34		22	43.0	42.8	35 36		22	53.1	54.3	25		22	56.7 56.8	57.0	30	
<b>2</b> 6	45.0	44.2	34 32		24 26	42.4 43.1	42.I 42.9	35		24 26	52.0	53.1 52.6	23 23		24 26	57.0	57.I 57.4	30 31	
28 30	46.0	45·5 46.1	30 29	-14.8	28	43.5	43.I	34	7.10	28	52.3	53.2	24 26		28	57.6	58.0	32	
32	46.1	45.6	30	-14.6	30 32	43.2 42.9	43.0 42.9	34 35	-14.9	30 32	53.9	54.9 56.0	20	-11.4	30 32	56.2 56.1	56.8 56.7	30 29	-10.9
34 36 38	46.0 48.0	45.2 47.2	3I 27		34 36	42.7	42.2	35 36 36		34 36 38	56.0	56.9	29		34 36	58.1	58.5	32	
38	46.1	46.0	30		36 38	42.3 42.1	42.I 42.0	36		30	56.0	56.9 58.9	29 33		36 38	57.8 57.7	58.1 57.9	32 32	
40 42	45.2 43.8	44.2 41.8	32 35		40 42	41.5 41.2	41.2 41.1	37		40	58.8	59-5	34		40	57.4	57·9 57·8	31	
	44.0	42.I	35	-14.8	44	41.2	41.1	38	-14.9	42 44	59.0	59.9 60.1	34	-11.2	42 44	57·3 57·0	57.8 57.3	31 30	-11.0
44 46 48	43.8 46.1	42.5	34 31		46.2 48		40.2 40.4	38		44 46 48	59.3	60.4	35		46 48	57.1	57.3	31	
50	46.2	44·4 43·9	32		50	40.9 40.9	40.7	37 38 38 38 38 38 38 38		50	59.4 59.1	59.8	34 34		50	57.3	57.8 57.6	31 31	
52	45.2 43.0	42.9 41.0	33 36		52 54	4I.0 4I.0	40.8 40.8	38		50 52	58.8	59. I	33		52	57.2	57.5	31	
54 56	44.9	42.9	33		56	41.5	41.0	37 36		54 56	59.2 59.1	59·7 59·7	34		54 56	57.I 57.0	57.2 57.0	30 30	
58 1 00	43.7 45.8	42.0 43.9	35 32	-14.8	58 23 00	42.3 42.5	42.0 42.1	36 36	-14.9	58	59.1	60.0	34	-11.1	58 19 00	56.8	57.0	30	-11.0
02	44.8	42.5	34	14.0	02	42.0	41.5	37 38	14.9	17 00 02	59·3 59·4	59.9 59.8	34		02	56.1	57.0 56.3	30 29	-11.0
04 06	46.5	44.9 41.2	30 36		04 06	40.9	40.7 39.9	38 40		04 06	59.0 58.9	59.2	34		04 06	56.1 56.3	56.3	29 30	
08	45-3	43.2	33		08	39.8	39.4	40		08	58.8	59.0 59.0	33 33		08	56.9	57.0 57.2	30	
IO I2	43.8 43.1	41.I 41.I	33 36 36		10 12	40.2	39.9 41.0	39 37		10 12	58.9	59.0 59.0	33 33		I0 I2	57.0 57.0	57·7 57·2	31 30	
14	42.I	40.5	37	-14.9	14	42.8	42.4	35	-14.9	14	59.1	59.0	34	-II.O	14	57.0	57.0	30	-11.0
16 18	44.I 43.2	42.9 41.6	34 36		16 18	43.I 42.8	42.9 42.1	35 36 38		16 18	59·3 60.1	60.0	34 36		16 18	57.3 57.8	58.0 58.2	31 32	
20	43.9	42.I	35		20	41.0	40.7	38		20	60.1	60.7	36		20	58.0	58.2	32	
22 24	44.I 45.2	42.8 42.0	34 34		22 24	40.0 39.1	39.8 39.0	40 41		22 24	59.0 58.1	59.7 59.9	34		22 24	58.0 58.0	58.1 58.0	32 32	
26	42.2	40.5			26	38.3 38.0	38. I	42		26	58.1	58.8	32		26 28	58.0	58.0	32	
28	41.3	40.8	37 38 36	-14.9	28 30	38.0 37.9	37·9 37·5	43 43	-14.9	28 30 32 34 36 38	58.1 58.4 58.6	59.0	33	-11.0	28	58.0 58.0 58.3 58.7 58.9	58.1 58.7	32	
30 32	42.5 44.9	42.0 44.I	32	-14.9	32	37.2	37.I 36.8	43	14.9	32	58.9	59.1 59.3	33 34	_11.0	30 32	58.7	59.0	33 33	-II.
34 36 38	42.9	42.3	35		34 36 38	37.2 36.9 36.5 36.2 36.3	36.8 36.3	44		34	58.7	59.0	33	1	34 36 38	58.9	59.3	34	
38	43.7	43.1	34 35		38	36.2	36.0	45 45		38	58.3	59.0 58.9	33		38	58.4	59.3 58.9 58.8	34 33 33	
40	43.0	42.9	35 35		40	36.3	36.0	45		40	58.4	58.9	33		40	58.1	58.8	33	
42	43.1 44.0	43.0 43.9	35 33	-14.9	44	36.4 37.0	36.1 36.8	45 44	-14.8	42	58.7	58.7 59.0	33 33	-10.9	42	58.4 58.1 58.1 58.2 58.2	58.7 58.8	33	
40 42 44 46 48	45.2	45.1	31	, -	40 42 44 46 48 50	37.0 37.8 38.8	37.2 38.2	43		46	58.9 58.3 58.3 58.4 58.3 58.7 58.6	58.9 58.8	33	-	42 44 46 48	58.2	58.9	33	
48 50	44.9 44.0	44.7 43.9	32 33		40 50	40.I	39.8	42 40		48 50	58.3	58.8 58.8	33 33		50	58.4 58.9	59.0 <b>5</b> 9.2	33	
50 52 54 56 58	43.0	42.4	35		52	41.8	41.1	37		40 42 44 46 48 50 52 54 56 58	58.3 58.2	58.2	32		52	59.1	59.8	33 33 33 33 34 35 35	
54	42.0 44.1	41.2	37 33		54 56 58	42.9 43.0	42.I 42.5	35 35		54 56	57.6 56.9	57·9 57·2	32 30		54 56 58		60.1 60.4	35	
58	44.1 45.2	44.8	32		58 24 00	42.3 42.0	42.0 41.0	36 37		58	56.0	56.2	29		58 20 00	60.1	60.4	35 35 3 <b>5</b>	

Correction to local mean time is + 1m. 90° torsion = 16.'49. Torsion head at oh oom read 42° and at 24h 21m read 35°. Observer—J. V.

Correction to local mean time is + 2m 26.5s. Torsion head at 15h 35m read 38° and at 20h 12m read the same. Observer—R. R. T.

Frida	y, April 22,	1904			Ma	gnet s	cale inve	erted	Sund	ay, Ap	ril 24,	1904				Magn	et scale	erect
Chr'r time	Scale readings Left Right	. East decli- nation	Temp. C.	Chr'r time	Scread	-	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem C.
h m	d d	0 /	0	h m	d	d	0 ,	•	h m	d	d	· ,	0	h m	d	d	0 ,	0
000	55.4 54.0 55.2 54.1	22 19	-13.0	22 00 02	58.8 58.1	55·3 54·0	22 16	-13.7	0 00	47.I	47.9	22 33	-14.7	2 00 02	37.0 37.2	37.2 37.8	22 I6 I7	-13.9
04	53.7 52.7	19 22		04	57.0	53.2	17		02 04	46.7 47.1	47.8 47.9	32		04	37.4	38.1	17	
06 08	53.0 52.1	23		o6 o8	56.9 57.8	53.2 54.8	19		06	47.I	47.8	32		o6 o8	38.8 38.7	39.2 39.1	19	
10	53.7 52.2 55.3 54.0	19		10	58.9	55.9	17		08	47.0 46.8	47.6 47.3	32 32		10	39.2	39.9	20	1
12	52.2 50.6			12	56.4	54.8	18		12	46.3	47.2	31		12	40.2	40.9 42.0	22	
14 16	52.9 50.7 53.9 52.9	24 2I	-13.0	14 16	59·4 60.0	58.0 59.1	I3 I2	I3·7	14 16	46.0	46.8 46.1	31 30	-14.3	14 16	41.I 42.0	42.5	23 24	-13.8
18	55.3 53.7	19		18	61.2	60.7	10		18	43.9	44.8	28		18	41.2	42.0	23	
20 22	56.1 55.8 55.9 55.0	17		20 22	61.5	60.7	09		20 22	43.9	44.8 43.7	28 26		20 22	41.8	42.2 43.0	24 25	
24	51.9 51.0		1	24	62.1	61.3	08		24	42.I	43.0	25		24 26	43.0	43.I	26	
26 28	51.1 50.0 51.0 49.7	20 26		26 28	61.9	60.9 59.1	. 09 12		26 28	41.7	42.2 42.2	24 24		20 28	43.9	44.0 44.4	27 27	
30	50.6 40.2	27	-13.0	30	61.0	60.2	IO	-13.9	30	41.1	42.0	23	-14.3	30	44.1	44.9	27 28	-13.
32 34	45.9 44.8 45.0 42.0	34 37		32 34	63.1 63.1	61.2	08 08		32	40.9	41.8 42.1	23 24		32 34	44.2 45.1	45.0 45.9	28 29	
36 38	42.7 39.8	40		34 36 38	61.8	60.0	09		34 36	4I.I	41.8	23		36	45.2	45.9	29	
38 40	38.8 35.3 40.4 38.3	47 43	1	38 40	60.9	59.2 58.9	II I2		38	41.0	41.3	23 22		38 40	45.I 45.9	45.9 46.2	29 30	
42	48.9 48.3	29		42	60.8	59.2	II		40 42	40.9	41.0 42.0	24		42	45.9	46.2	30	
44 46	46.7 44.1	34	-I3.I	44	59.9 60.8	59.0 59.2	I2 II	-13.9	44	41.3	42.0	23	-14.2	44 46	47.0 47.7	47·4 48.2	32 33	-13.
48	39.2 34.8 57.3 50.2	21		44 46 48	60.1	58.7	12		46 48	41.8	42.3 42.2	24		48	48.4	49.1	34	
50	52.9 48.2	26		50	58.0	56.1	16	-	50	41.1	41.9	23		50	48.1	48.9°	34	
52 54	53.3 47.8 58.3 52.3	26 18		52 54	56.9 56.7	55.I 54.5	17 18	+ e,	52 54	40.8	41.8	23 21		52 54	47.6 47.3	48.0	33	
54 56	61.9 57.0	12		54 56	55.2	53.8	19		56	39.0	39.8	20		56	48.9	49.1	35 36	
58 1 00	61.9 57.6 62.9 58.3	11	-13.2	58 23 00	55.1 54.3	53.I 53.0	20 2I	-14.0	58 1 00	38.7	39.2 40.0	19	-14.2	58 3 00	49.5	50.0 49.8	36	-13.
02	63.5 58.6	09	"0"	02	56.9	54.9	17		02	40.1	41.0	22		02	47.9	48.7	34	
04 <b>0</b> 6	63.6 58.9 63.9 59.1	09		04 06	56.3 57.4	54·9 55·9	18 16		04 06	40.4	41.3 41.9	22 23		04 06	47.0 46.2	47.6 47.0	32 31	
08	63.8 59.3	08		<b>o</b> 8	55.I	54.0	19		08	39.9	40.9	21		08	47.7	48.3	33	
IO I2	63.9 59.6 63.1 59.2	08		10 12	55.3 55.8	54.I 54.9	19		IO I2	38.3	39.I 39.0	19		IO I2	48.2 49.1	49.0 49.8	34 36	
14	63.3 59.6	09	-13.2	14	55.0	54.2	19	-14.2	14	38.7	39.2	19	-14.1	14	50.I	50.9	37	-13.
18 18	64.0 59.6 63.9 59.4			16 18	54·4 52·7	53.9 52.1	20 23		16 18	39.0	40.0 42.3	20 24		16 18	50.2	51.1 51.8	37 39	
20	63.9 60.0	08		20	51.8	51.0	24		20	42.0	43.0	25		20	51.7	52.3	40	
22	63.9 60.1 63.4 60.1			22 24	53.9 52.0	53.I 51.3	2I 24		22	42.8	43.3	26 24		22 24	53.I 55.I	54.4 56.1	42	
24 26	63.2 60.0	08		26	56.9	55.9	16		24 26	42.0 40.1		22		26	55.4	56.5	45 46	
28	63.2 60.1		12.2	28 30.4	51.9 51.4	51.9 50.0	24 26	-14.3	28	39.3	40.3	20	74.0	28	56.0	56.9 55.8	46	-13
30 32	63.4 60.5		-13.3	32	50.7	49.6	26	14.3	30 32	38.6	40.0 39.2	20 19	-14.0	30 32	54.9	55 • 4	45 44	-13
34 36	62.3 60.1	09		34	50.1	49.2	27 28		34	39.1	39.9	20		34	53.2	54.8	43	
30 38	61.9 59.8 61.7 59.8	10	1	36 38	49.7 48.0	48.1 47.1	30		36 38	39.1	39.9 39.8	20		36 38	51.9 49.2	52.9 50.6	40 36	
40	61.9 60.0	10		40	47.3	46.7	31		40	38.3	39.1	20		40	47.2	48.5	.33	1
42	61.7 59.8 61.5 59.2		1	42 44	47.I 47.0		32 32	-14.7	42	39.0 39.3		20 20	-13.9	42 44	46.9 47.1	47.8 48.1	32 33	-13
44 46	62.1 58.9	IO		46	47.I	46.2	32	-4.7	44 46	39-3	40.1	20	-3.9	46	47.1	47.8	33	13
48	63.0 58.9	09		48	46.1 47.8	45.9	33		48	38.0	38.9	18		48	47.3	48.3	33	
50 52	62.7 58.8 61.3 58.0	12	1	50 52	47.8		30 31		50 52	37.1 36.3		17		50 52	49.8 54.1	50.7 55.0	37 44	
54	60.3 57.1 59.8 56.3	13		54	46.7	46.1	32		54 56	35.7	<b>36.3</b>	14		54	57.3	58.0	44 48	
54 56 58	59.8 56.3 59.1 55.8	14 15		56 58		46.1 47.9	32 30		56 58	30.5	36.9 37.2	16		56 58	59.3 61.8	59.7 62.1	51 55	
5-	00.0	-5		24 00	46.7	45.8	32	-14.8	] 30	07.13	J, 12						55	

Correction to local mean time is + 2m ogs. 90° torsion = 14.'95. Torsion head at 19h 30m read 38° and at 24h 20m read 42°.

Observer-R. R. T.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

nda	у, Ар	ril 24,	1904			Ma	gnet s	cale inv	erted	Mono	iay, A <sub>i</sub>	pr il 25,	1904				Magn	et scale	erect
'r ie	Sca read Left	lings	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Tem C.
n	d	d	0 ,	•	h m	d	d	· ,	0	h m	d	d	· ,	0	h m	d	d	0 /	
2	41.8 40.2	37.0 35.6	23 03 06	-13.2	6 00 \	36.8 36.2	35·5 35·4	23 08 09	-11.3	8 00	48.8 48.0	49.8 49.0	22 43 42	-14.6	10 00 02	42.I 43.3	43.0 44.2	22 33	-13.
1	38.3	34.2	08		04	37.0	36.3	08		04	50.2	51.7	46		04	44.2	44.9	34 36	
8	37·9 37·0	34.I 34.0	09		06 08	37·7 39.8	36.4 38.5	07 04		<b>o</b> 6	52.0 49.6	54.2 51.7	49 45		06 08	42.7 41.8	43.2 42.1	33 32	
0	39.6	36.5	05		10	42.0	40.1	10		IO	48.8	51.0	44		10	42.3	43.0	33	
2 4	40.0	37·5 38.0	04	-12.7	I2 I4	39.9	40.1 37.8	01 04	-11.0	I2 I4	55·3 45·4	57. I 48.3	54 39	-14.6	12 14	44.8 44.1	45.0 44.8	36 36	-13.
6 8	4I.I	39.3	02		16	42.2	40.7	23 00		16	46.1	48.3	40	1	16	43.6	43.9	34	
0	4I.I 4I.I	39.9 39.9	10		18 20	42.9 45.9	40.9 45.0	22 59 22 54		18 20	45.6 39.3	47.6 41.7	39 30		18 20	43.0	43·4 44·0	34 35	
2	41.8	41.0	00		22	41.0	40.0	23 OI		22	44.8	48.0	39		22.4	43.1	44.0	34 36	
6	42.0 41.9	41.2 41.2	00		24 26	39.0 38.1	37.9 37.0	05 06		24 26	52.7 48.9	54.0 59.9	50 51		24 26	44.2 45.3	44.8 45.9	37	
8	41.4	41.0	00	-12.8	28	38.1 35.8	36.3	07 I0	-10.8	28	48.9	50.2	44	T4 6	28	45.3 44.8 43.8	45.4	37	
2	41.I 40.0	40.7 39.2	03	-12.6	30 32	37.1	34.0 34.2	09	-10.6	30 32	48.0 46.0	48.2	42 40	-14.6	30 32	43.I	44·3 43·3	35 34	-13.
4 I	38.2	37·3 36.1	06 08		34 36	40.3 40.8	38.0 38.1	04		34	50.1	51.4	46 46		34	42.0	42.8	32	
8	37.0 37.0	36.1	08		38	41.2	38.9	03 23 02		34 36 38	50.1	51.9 55.2	51		36 38	43·3 45.0	43.9 45.2	34 37	
0 2	36.9 37.7	<b>3</b> 6.1 36. <i>7</i>	08 07		40 42	46.9 46.6	45.0 45.0	22 53 22 53		40	53.2 53.8	54.0	50 22 50		40	44. <b>0</b> 46. <b>0</b>	44.2 46.3	35 38	
4 6	38.5	37.6	05	-12.9	44 46	42.5	41.0	23 00	-10.1	42 44	62.2		23 04	-14.6	42 44	45.I	46.0	37	-13
6 8	39.0 37.9	37.9 37.1	05 06		46 48	40.9	39.0 42.0	23 02 22 57		44 46 48	56.9	60.3 57.6	23 00 22 56		44 46 48 50	42.8 43.3	43·5 44·7	34	
0	38.0	36.9	<b>o</b> 6		50	47.9	45.6	52		50	55.0	55.0	22 52		50	45.5	46.7	35 38	
2 4	37.6 39.0	36.9 38.0	06 04		52 54	44.9	42.9 41.9	56 58		52	58.7	61.4 59.7	23 02 22 59		52 54	46.2	48.0 46.8	40 38	
6	40.2	39.5	02		54 56 58	43.3	41.2	59		54 56	55.2	55.9	53		56	43.1	44.9	35	
8	40.3 42.1	39.9 41.6	23 02 22 59	-12.8	7 00	43.I 39.9	41.9 37.9	22 58 23 04	-10.2	58 9 00	52.9 50.9	54.I 52.7	50 47	-14.3	58	42.0 43.0	44.0 44.9	33 35	-13.
2	42.0	40.6	23 00	12.0	02	37.5	35.9	07	10.2	02	49.I	50.2	44	14.3	02	44.1	46.2	37	13.
4	39.8 42.9	38.8 41.8	23 03 22 59		04 06	33·9 33·9	32.I 32.3	13		04 06	47.8 45.6	49.1 46.9	42 38		04 06	42.8 43.3	45.0 46.1	35 36	
8	47.2	46.6	51		08	33.7	32.2	13		08	44.0	46.2	37		<b>o</b> 8	43.2	45.9	36	
2	49.5 52.8	48.7 51.3	48		I0 I2	33.0	31.9 33.7	14		IO I2	40.9		32 34		I0 I2	46.8 45.3	49.I 47.3	39	
4	50.4	49.9	43 22 46	-12.7	14	23.7	22.I	29	-10.0	14 16	43.5	46.0	36	-14.1	14	41.9	44.4	34 38	-i3
8	42.0	40.4 49.0	23 00 22 47		16 18	29.8	28.0 35.0	20 08		18	44.9	46.9 50.5	38 44		16.4 18	45.1 45.2	46.8 47.7	38	
)	50.3 47.8	47.6	22 50		20	40.9	39.2	23 02	]	20	49.0	59.8	44		20	41.1	43.2	32	
2	29.I 25.3	29.1 24.9	23 I9 26	i i	22 24	45·3 42.9	43.9 41.8	22 55 22 59		22 24	49.5	50.8 50.8	45 45		22 24	48.2 42.6	50.1 43.6	43 34	
5	25.3 30.8	30.5	17		26	41.9	41.0	23 00		24 26	49.4 47.1	48.9	41		26	40.0	41.0	30	
3	37·7 37.0	36.9 36.2	06 08	-12.4	28 30	40.1 41.0	39.I 39.2	03 23 02	-9.6	28 30	48.5	50.2 44.7	43 35	-14.0	28 30	40.5 39.2	41.9 40.8	30 20	-12
2	39.2	38.4	04		32	46.1	45.I	22 54		32	43·3 46.8	48.3	40		32	39.1	40.2	29 28	
		38.9 41.7	23 04 22 58		34 36	46.0	45·4 49.0	53 48		34 36	44.9 44.2		37 36		34 36 38		40.0 41.0	28 30	
3	45.2	44.2	55		38	61.	oa	29 22 26		38	49.0	50.0	44		38	40.0	41.1	30	
3	43.8 42.9	42.8 41.9	57 58		40 42	63. 38.0	36.9	22 20 23 06		40 42	44.I 43.I	45.8 44.0	36 34		40 42	41.1	42.2 44.3	31 35	
	43.9	42.8	57	-12.0	44 46	35.8	35.4	09	~9.2	44 46	43.0	44.I	34	-14.0	44	41.9	42.2	32	-I2
	42.2 39.1	41.7 38.1	22 59 23 <b>0</b> 4		46 48	36.9 42.1	33.2 41.6	23 10 22 59		40 48	41.2 40.1		3I 29		44 46 48	40.I 39.I	41.7 40.3	30 28	
.6	38.7	37.9	05		50	39.0	37.6	23 05 22 58		50	40.2	41.1	30		50 52	39.1	40.0	28	
		35.2 33.2	09 12		52 54	43.I 45.0	42.8 44.2	22 58 55		52 54	41.7 40.1		32 30		52 54	39.5 40.1	40.4 41.2	28 30	
	31.8	31.0	16		54 56 58	47.8	47.I	50 48		54 56 58	39.0	39.9	28		54 56 58	42.0	42.6	32	
	35.0	34.6	10		58 8 00	49.7 46.7	49.1	48 53	-8.9	58	40.9	41.9	31		58 12 00	41.5	42.9 41.9	32 31	

Correction to local mean time is +2m o7s.  $90^{\circ}$  torsion = 14.'54. Torsion head at oh oom read  $38^{\circ}$  and at 9h o5m read  $33^{\circ}$ . Observer—R. R. T.

Correction to local mean time is — 5s. 90° torsion = 16.80. Torsion head at 7h 35m read 24° and at 12h 15m read 26°. Observer—R. R. T.

Tuese	day, April 26	, 1904			Ma	gnet s	cale inve	erted	Wedi	nesday,	, April	27, 1904	ŀ			Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
h m	d d	. ,	0	h m	d	ď	0 ,	0	h m	đ	d	· ,	0	h m	d	d	• ,	0
12 00 02	46.2 44.4 49.2 48.3	22 48 43	-I4.I	14 00 02	40.0 32.0	38.8 31.8	22 57 23 09	-14.3	0 00*	55.5 56.0	56.7 57.0	23 18	-18.6	2 00 02	<b>70.2</b> 69.8	70.3 70.1	23 4I 40	-19.3
04 06	46.9 45.2	47		04 06	35.2 34.0	34.I	05 06		04 06	57.0 58.8	59.1 59.9	2I 23		04 06	70.2 70.1	70.8 70.6	42	
<b>o</b> 8	48.8 46.9	49 44		08	35.2	33.2 34.0	05		08	58.5	59.3	23		08	70.7	71.1	41 42	,
10 12	48.9 47.0	44 44		I0 I2	34.2 33.8	33.2 32.0	06 08		10 12	59.1 58.9	60.1 59.8	24 24		IO I2	71.I 72.0	71.7 72.6	43 44	
14	50.6 48.3	42	-14.1	14	34.2	32.0	07	-14.3	14	58.3	59.1	23	-18.6	14	72.1	72.7	44	-19.4
16 18	53.3 51.2 54.9 52.2	37 35		16 18	31.8	30.7 31.1	10 09		16 18	57.0 57.8	57·4 58.1	20 2I		16 18	71.2	72.I 71.0	43	
20	54.0 50.8	37		20	28.2	26.4	16		20	58.2	58.9	22		20	69.2	70.0	40	
22 24	53.2 51.9 53.2 52.0	37		22 24	28. I 27. 8	26.3 25.6	16 17		22	59.8	60.I 60.9	24 26		22 24	69.5	70.I 70.3	40 41	
26	56.9 54.0	32		26	27.8	26.0	17		24 26	61.2	61.7	27		26	70.1	70.9	42	
28 30	59.0 58.0 62.0 59.0	27 24	-14.3	28 30	27.4 31.0	26.5 30.0	17	-14.3	28 30	62.9	62.0 63.1	27 29	-18.8	28 30	71.1	71.6	43 43	-19.4
32	62.7 60.5	22		32	36	.3a	23 02		32	63.2	63.3	30		32	71.1	71.3	43	
34 36 38	61.5 60.0 59.1 58.0	24 27		34 36 38	43.5	43·3 44·4	22 5I 49		34 36 38	63.1	63.1 63.9	30 31		34 36	71.1	71.8 72.8	43 45	
38	57.7 57.0	29		38 40	50.8 54.6	49.8	40		38 40	63.8	64.0 64.1	3I 3I		38 40	74.0 74.8	74.I 74.8	47 48	
40 42	54.9 53.0 52.6 50.9	34 38		42	55.1	53.I 55.0	3 <b>5</b> 33		42	64.3	64.7	32		42	73.8	74.0	47	
44	56.2 55.9 63.2 62.1	3I 2I	-14.4	44 46	56.8	56.3 53.1	30 35		44	64.2	64.4 65.7	31	-19.0	44 46	73.9 73.8	73.9 74.1	47	-19.5
44 46 48	62.9 59.2	23 28		48	53.7 55.8	53.7	3 <b>3</b>		44 46 48	65.7	66.0	34		48	74.0	74.9	47 48	
50 52	59.5 57.0 55.2 52.9	28 34		50 52	56.3 56.0	55·3 55·3	32 32		50 52	65.9	66.0 65.0	34 32		50 52	73.8 74.1	74.3 74.6	47,	
54 56	58.3 55.1	30		54	55.2	54.7	33		54	64.9	65.1	32		54	73.3	74.1	47	
56 58	57.0 55.0 54.5 52.9	31	-	54 56 58	58.0	57.0 59.7	29 25		54 56 58	64.9	65.1 65.3	32		56 58	74.0	75.0 74.8	47 48 48	
13 00	53.0 50.8	35 38	-14.3	15 00	64.0	62.1	20	-14.1	1 00	66.0	66.5	35	-19.2	3 00	75.0	76. I	49 48	-19.5
02 04	51.2 49.9 50.8 49.8	40 40		02 04	63.6	61.8 59.1	2I 25		02 04	65.0	67.0 66.0	35 34		02 04	74.I 72.I	75.2 72.9	45	
<b>o</b> 6	50.9 49.3	40		o6 o8	61.1 58.9	59.8	24 28		06 08	64.0	64.9	32		o6 o8	72.2	73.2	45 46 46	
08 10	49.0 47.8	43 45		10	58.9	57.1 56.3	20		10	65.5	66.2 67.2	34 36		10	73.I	74.I 74.0	46	
12	45.0 43.5	50 52	74.4	12	58.0	56.0 56.7	30 29	-14.2	12 14	67.8 68.6	68.1 69.0	37 39	-19.2	I2 I4	71.9 72.5	72.8	44 45	-19.4
14 16	42.9 42.2 43.9 43.8	50 48	-14.4	14 16	57.9 58.0	56.8	29	14.2	16	68.7	69.1	39	19.2	16	73.8	73.I 74.0	45 47 48	19.4
18 20	46.1 45.0 50.0 49.2	48 41		18 20	54.2 54.9	52.8 50.1	35		18 20	69.4	69.8	40 39		18	74.I 76.7	74·9 77·3	48 52	
22	48.8 48.0	43		22	52.1	51.0	37 38		22	69.1	69.1	39 38		22	77.1	78. I	53	
24 26	51.3 50.8	39		24 26	52.0 51.2	50.2 49.5	39 40		24 26	68.3	68.7	38		24 26	76.3	77.0 77.0	51 51	
28	53.2 53.0	35 36 37 38		28	50.4	48.I	42		28	67.7 67.8	67.7 67.8	37		28	76.7	77.1	52	
30 32	53.0 52.1 52.0 51.0	37	-14.4	30 32	48.9 49.8	47·4 48.5	44 42	-I4.2	30 32	67.9 69.8	68.0 69.9	37 40	-19.2	30 32	76.0 74.7	77.I 75.3	51 49	-19.2
34	50.6 50.1	40		34 36 38	53.2	51.1	37		34	69.6	69.9	40		34 36 38	75.0	75.3 76.8 78.0	51	
34 36 38 40 42	49.7 48.3 48.0 46.9	42 45 48		38	53.I 54.I	51.2 52.8	37 35		36 38	69.9 70.0		40 41		38	77.3 77.5 76.0	78.3	53 53	
40	45.9 44.9	48		40	52.8	51.0	35 38		40	70.3	70.8	41		40 42*	76.0	76.3	23 50	
42 44	46.1 45.8 46.2 46.0	47 47	-14.3	42 44	53·4 55·1	50.9 53.7	3 <b>7</b> 34	-14.3	42 44	70.9 70.7	70.9	42 42	-19.2	44 46	52.7 53.3	57.1 56.9	22 53 53	-19.0
44 46 48	46.2 46.0 48.7a 49.1 48.9	43		44 46 48	60.0	57.1 57.8	27 27		44 46 48	70.2 70.6	70.9	42 42		46 48	55.0 56.2	57·9 58.9	5 <b>5</b>	
48 50 52 54 56 58	48.3 47.8	42 44		50	62.0	59.8	24		50	70.1	70.2	41		50	57.9	60.1	22 59	
52	47.2 47.0 44.8 44.1	45		52 54	61.0	59.2 62.0	25 20		52 54	71.9	71.9 73.0	44 45		52 54	62.1 62.3	63.8 64.7	23 05 06	
56 56	45.0 <i>a</i> 43.3 42.7	50 48		50 52 54 56 58 16 00	64.3	62.9	19		50 52 54 56 58	73.1	73.1	46		54 56	60.9	62.9	04	
58	43.3 42.7	52		16 00	61.2 58.8	59·9 57·2	24 28	-14.4	58	72.0	72.2	. 44		58	60.9	63. <b>o</b>	04	

Correction to local mean time is - 9.5s.

Observer-R. R. T.

Torsion head at 11h 29m read 48° and at 16h 23m read the same. Observer—J. V.

r'r ne	Scaread	lings	East decli- nation	Temp. C.	Chr'r time	Sc. read Left	_	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem <sub>1</sub> C.
m	đ	đ	0 /	•	h m	d	d	• ,	•	h m	d	d	0 ,	•	h m	d	đ	· ,	0
0	62.4	64.1 64.1	23 06 06	-18.9	6 00	59.2 55.5	59.9 56.9	23 00	-17.8	8 00	57·3	61.1 59.2	23 02 22 58	-13.9	10 <b>00</b> 02	48.1 50.1	50.0 51.0	22 44 47	-12.0
<b>1</b>	60.3	62.1	03		04	58.0	58.5	22 55 22 58		04	58.7	59.9	23 00		04	50.1	51.0	47	
ś	60.8 61.2	62.3 63.0	03		06 08	61.0 56.2	61.8 57.7	23 03 22 56		06 08	56.6	57·9 54·9	22 57 53		06 08	49.9 48.0	50.1 48.8	46 43	
2	63.2 63.0	65.1 64.8	08		I0 I2	60.2	61.3	23 02		I0 I2	53.1 55.0	55.1 55.8	52		I0 I2	47.0 46.8	49.1	43	
Ļ	62.1	63.5	07 05	-18.8	14	55.3	62.2 57.2	23 04 22 55	-17.3	14	54.8	56.1	54 54	-13.2	14	49.0	47.I 49.3	41 45	-12.0
	62.1	63.1 62.9	05 04		16 18	54.0 50.0	55.0 52.1	53		16 18	54·4 57·9	54.9 58.8	53 59		16 18	51.9 49.9	53.I 50.9	50 47	
)	64.2	65.3	08		20	43.9	44.7	47 36		20	57.8	58.2	58		20	47.8	49.0	47	
	62.7	63.2 69.2	06		22 24	50.0 62.9	52.3 64.9	22 47 23 07		22	58.2 57.1	58.5 59.0	59 22 58		22 24	48.2 47.9	48.3 49.2	43	
	67.1	67.9	13		26	63.2	64.3	23 07		24 26	57.9	59.9	23 00		26.5	50.I	52.1	44 48	
	65.0 64.0	65.8 64.8	09	-18.4	28 30	58.2	59·3 62·9	22 59 23 04	-16.9	28 30	58.9	59.9 57.9	23 00 22 57	-13.0	28 30	49.8 46.9	51.3 $47.2$	47 42	
	62.1	62.9	05		32	62.4	64.7	23 07		32	55.7	56 <b>.o</b>	55	-0	32	47.0	47.3	42	-11.9
	60.3 62.1	61.0 62.8	02 05		34 36	48.9	.4 <i>b</i> 49.8	22 49 44	,	34 36 38	53.2 54.8	54.I 55.4	51 54		34 36	48.0 48.0	48.5 48.9	43 44	
	63.8	64.2	07		38	54.2	54.5	51		38	55.8	57.2	54 56		38	45.6	46.3	40	
	61.4 62.6	62.1 63.3	04 06		40 42	56.4 63.8	58.0 65.4	22 57 23 08		40 42	54.0 54.1	55.0 55.9	53 54		40 42	43·3 44·2	44.8 45.5	37 38	
	64.5	65.0	08	-18.2	44	59.1	59.3	23 00	-16.3	44 46	52.9	53.2 52.8	50	-13.0	44	45.4	46.0	39	-11.8
	64.9 68.9	65.9 69.7	16 09	[	46 48	53·9 57·9	54.2 58.2	22 52 22 58	-10.3	48	52.0 54.0	54.9	50 53		44 46 48	45.I 46.0	46.0 47.1	39 41	
	68.5 62.1	69.0 64.0	23 06		50 52	59.1 54.2	61.0 56.2	23 01		50 52	52.8 55.7	53·7 56.4	51 55		50 52	45.9	47.0 48.4	40	
	58.1	59.2	22 59		54 56	57.0	58.7	22 54 22 58		54	52.0	52.9	50	į i	54 56	47.9 48.0	48.9	43 44	
	57.I 56.0	58.1 57.2	57 56		56 58	53.I	62.9 54.1	23 04 22 5I		56 58	54.9 54.0	55.2 54.9	54 53		56 58	47.0 46.6	47.2 47.0	42 41	
	56.1	57.0	56	-18.2	7 00	62.2	62.9	23 05	-15.8	9 00	52.0	53-4	50	-12.7	11 00	45.5	46.4	40	-11.8
	56.9 57.3	57·9 57·9	57 22 57	,	02 04	58.4 59.7	58.9 60.3	22 59 23 OI		02	50.0 55.2	50.4 56.0	46 55		02 04	47.2 50.7	47·7 51.0	42 47	
	59.0	60.3	23 00		06	58.2	58.9	22 59		<b>o</b> 6	56.o	56.2	55 56		06	48.0	48.3	43	
-	66.0 65.1	67.1 65.5	12 09		08 10	59.3 60.8	61.1 61.2	23 02 03		08 10	55·9 59·9	57.0 60.6	22 56 23 02		08 10	46.0 44.3	48.0 45.0	41 38	
	60.2	60.8	23 02	-0 -	12	58.9	59.8	23 00		12	56.1	57.0	22 56		12	46.9	47.0	41	
	55.2 53.1	56.0 53.8	22 54 51	-18.2	14 16	55.6 56.0	56.0 57.0	22 55 56	-15.4	14 16	53.8 52.1	55·3 54·I	53 51	-I2.4	14 16	45.0 43.6	46.5 44.9	39 37	-11.8
	56.7	56.9	22 56		18.4	55.6	56.3	55		18 20	51.2	54.8	51		18	54.2	55.7	54	
	59.1 61.1	59.1 61.8	23 00 23 03		20 22	56.7 55.3	57.2 56.0	56 54 56		22	49.I 50.0	50.5 51.3	46 4 <b>7</b>		20 22	50.1 57.2	52.7 60.7	22 48	
1	58.2	58.2	22 58	li	24 26	56.3	57.0			24 26	51.9 52.1	52.8	50		24 26	53.2		22 55	
	58.9 59.3	58.9 59.8	22 59 23 00		26 28	55.7 60.8	56.0 61.8	22 55 23 04		28	51.0	52.0	50 48		28	37.0 39.2	41.0 43.9	29 33	
	58.1 59.8	58.9	22 59	-18.2	30 32.5	57.0 53.9	58.0 54.8	22 57 52	-15.0	30 32	49.8 51.4	50.9 52.4	46 49	-12.3	30 32	41.3	44.2	35	-11.9
	59.0 59.1	59.9	23 OI 23 OO	li	34	55.2	56.2	55	İ	34	51.4	52.9	49		34	39·3 41.1	42.1 44.5	32 35	
	58.7	59.0	22 59		34 36 38	54·3	55.1 60.5	22 53 23 OI		<b>3</b> 6 38	52.3 52.9	54.0 54.0	51 51		34 36 38	41.0 40.1	44.2	35	
	56. <i>7</i>	60.3 57.9	23 OI 22 57		40	59.1 58.8	59.4	00		40	49.4	50.6	46		40	41.0	43.2 44.0	33 34	
	59.I	59.7 55.8	23 00	-18.o	42	60.1 58.6	61.1 59.9	02 23 00		42 44	50.I 52.0	51.1 52.8	47 50	-12.I	42	39.9 43.I	42.0 46.0	33 38	
	57.2	55.8 57.9	22 54 22 57	-10.0	44	53.2	54.0	22 51	-14.3	46	53.1	54.0	52	12.1	44 46 48	43.7	46.0	38	-12.0
1.	59.I	59.4	23 00		48		57.1 58.0	55		48 50	51.2	52.0 52.2	48 40			44.3	46.6	39	
	бо <b>.о</b> бі.і	61.8	02		52	57.5	58.9	57 58		52	51.7 51.8	52.2	49 50		52	41.4 42.7	44.0 44.7	35 36	
	64.9	65.2	23 09		44 46 48 50 52 54 56 58	55.9	57.2 58.0	56 58		54 56 58	50.1 51.8	51.7 53.2	47 50		50 52 54 56	43.2	44.8	37 38 36	
	54.0 59.9	55.0	22 52 23 02		58	55.0		55		58	50.I		48		58	43.9 42.8	45.1 43.9	36	1

Observers—R. R. T. and J. V., who alternated from 7h 48m to 7h Observer—J. V. 58m.

#### SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

#### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedr	nesday, April	27, 1904	<b>,</b>			Magn	et scale	erect	Wedi	nesday	, April	27, 1904	<b>!</b>			Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli-	Ten C.
n m	d d	۰,	•	h m	d	d	0 ,	•	h m	d	d	۰,	•	h m	d	d	۰,	
00	38.6 40.0 40.7 42.3	22 30	-12.0	[4 00 02	40.3 39.9	40.4 40.1	22 3I 3I	-12.3	16 00 02	35.0	35.6	22 24	-12.6	18 00	39·3 40·5	40.6 41.8	22 21	-13.
04	40.3 41.5	32		04	39.6	39.8	30		04	35.0 34.6	35.6 35.2	24 23		04	41.0	42.3	33 34	
o6 o8	34.8 36.0 34.2 35.4	23 22		06 08	39.2 39.1	39.2 39.3	30 30		06 08	34.9	35.6 35.6	24 24		o6 o8	39.6 39.9	41.3	32	
10	35.0 35.9	23		10	39.2	39.3	30		10	35·3 35·2	35.8	24		10	4I.I	41.3 42.3	32 34	
12 14	36.1 36.9 36.2 37.2	25 25	-I2.I	12 14	38.8	39.0 37.5	29 27	-I2.4	12 14	35·5 35·9	36.0 36.3	24 25	-12.6	12 14	41.9	43.0 42.6	35	
16	37.0 37.9	26		16	37.0	37.0	26		16	36.0	36.3	25	-12.0	16	42.6	43.2	35 36	-I3.
18 20	35.7 36.0 36.3 36.8	24 25		18 20	37.0	37·3 37·9	26 27		18 20	36.3 36.0	36.7 36.6	26 25		18 20	42.5 42.2	43·3 42.8	36	
22.4	36.9 37.4	25 26		22	37.3	37.8	27 26		22	37.0	37.5	27		22	42.4	42.8	35 35	
24 26	37.0 37.1 40.5a	26 31		24 26	37.1	37·3 37·6	27		24 26	37·3 37·2	38.1 38.0	27 27		24 26	42.3 42.0	42.6 42.6	35 35	
28	41.1 41.7	33	70.0	28	37.8	37.9	27		28	36.8	37.8	27	_	28	41.9	42.6	35	
30 32	40.2 40.9 39.8a	31 30	-I2.2	30 32.4	37·7 38.0	37.8 38.1	27 28	-12.5	30 32	37.2 36.8	38.2 38.1	27 27	-12.6	30 32	42.0 42.I	42.6 42.6	35 35	-13.
34	43.0a	35		34	37.3	37.4	27		34	37.0	38.5	27		34 36	42.3	43.0	35	
<b>3</b> 6 <b>3</b> 8	39.0 <i>b</i> 38.6 38.8	29 29		36 38	37·3 37·1	37·5 37·3	27 26		36 38	37.0 38.1	38.3 38.8	27 28		36 38	42.3 42.3	43.I 43.5	36 36 36	
40	37.9 38.8	29 28		40	37.1	37.2	26 26		40	37.8	39.5	29		40	42.6	43.8	36	
42 44	37.5 38.0 37.9 38.1	27 27	-I2.2	42 44	36.8	37.0 37.1	26	-12.5	42	38.5 38.8	40.0 40.5	30 30	-12.7	42 44	42.5	43.5 43.6	36 36	-14
40.3	34.0 35.8	22		44 46 48	36.1	36.2	25		44 46	39.2	40.8	31	-2.,	46	42.6	43.6	36	
48 50	31.1 31.1 28.0b	17		50	35.I 34.I	35.7 34.8	24 20		48.2 50	38.5	39.7 40.1	30 30		48 50	42.5 43.0	43·5 44·2	36 37	
52	27.0 27.5	II		52 54	33.9 33.6	34.0 33.8	2I 2I		52	38.8	39.8	30	ĺ	52	43.0	44.0	37	
54 56	29.4 29.9 31.0 31.3	14		56	33.4	33.8	21		54 56.3	38.9 38.8	39.8 39.6	30 30		54 56	42.8	43.7 44.0	36 37	
58	32.0 32.4	18	-12.3	58 15 00	33.1	33·5 33·3	20 20	-12.6	58	39.0	39.7	30		58	43.6	44.2	38	
3 00 02	33.6 34.0 35.3 36.0	24	-12.3	02	33.2	33.3	20	12.0	17 00 02	39.0 39.0	39.6 39.6	30 30	-12.9	19 00 02	43·5 43·3	44.0 44.0	37 - <b>37</b>	-14.
04 06	37.3 37.8 39.2 40.0	27 30		04 06	32.8	33.0 32.0	20 18		04	39.3	39.8	30	ļ	04	43.0	44.0	37	
80	39.2 40.0 40.0 40.8	31		08	32.0	32.2	18		06 08	39·3 39·9	40.2 40.7	31 32		06 08	43·3 43·I	44·3 44·5	37 38	
IO I2	40.0 40.9	31 32		10 12	31.9	32.0 31.9	18		10	39.8	40.6	32		10	43.0	44.3	37	
14	41.8 42.3	34	-12.2	14	30.9	31.0	17	-I2.7	12 14	39.I 40.3	40.6 40.7	31 32	-13.0	12 14	42.6 42.5	43.8 43.7	37 36	-14
16 18	40.9 42.0 41.0 42.1	33		16 18	30.9	30.9	17		16 18	40.5	40.8	32		16 18	42.6	44.0	37 36	
20	41.4 42.4	34		20	31.1	31.2	17		20	40. I 39. 5	40.3 41.6	32 32		20	42.4	43.8 43.7	36 36	
22 24	41.2 42.5	34		22 24	30.8	31.0 32.0	17 18		22 24	39.8 40.3	42.0 42.3	33 33		22 24	42.0	43.3	36 36	ŀ
26	41.2 42.2	33		26	32.2	32.7	19		26	40.2	42.3	33	İ	26	42.0 43.3	43·3 44·5	38	
28 30	39.9 40.6	32	-12.3	28 30	32.9 32.9	33.I 33.I	20 20	-12.7	28 30	40.2 40.0	42.2 41.6	33 33	-13.1	28	43.6 43.6	44.5	38 38	-14
32	40.3 41.1	32		32	32.7 32.8	33.0	20		32	40.6	41.6	33	13.1	30 32	41.8	44.3	35	-14
34 36	40.8 41.3	32		34 36	33.0	33.0 33.4	20 20		34 36	41.0 42.3	42.8 43.9	34 36		34 36 38	40.3	40.8 41.0	32 33	
38	41.2 41.8	33		38	33.4	34.0	2I 2I	١٠,	38	38.3 39.8	37.0	27		38	41.5	42.3	34	
40 42	40.8 41.1	32		40 42	33.3	34.0 34.2	21		40 42	39.8 39.3	41.6 40.8	32 31		40 42	41.6 41.3	42.4	35 34	-14
44	40.4 41.0	32	-12.3	44	33.2	33.9	2I 2I	-12.7	44	39.0	40.7	31	-13.2	44 46	41.0	42.I	34	1
46 48	40.9 41.1 41.9 42.0	32 34		46 48	33.6	34.I	21 21		46.7 48	40.0	4I.2 4I.5	32 33		46 48	41.6 41.6	42.6 42.8	35 35	
50	41.2 41.7	33		50	33.8	34.1	21		50	40.3	41.6	33		50	41.5	42.3	34	
52 54	41.2 41.9	33		52 54	33.6	34.0 34.1	2Ĭ 22		52 54	39.8 39.4	40.5	32 31		52 54	42.0 42.5	43.I 43.3	35 36	
54 56 58	40.2 40.3	31		56	34.3	35.0	22		56 58	39.3	40.4	31		52 54 56 58	43.3	44.2	37	
50	40.0 40.1	31		58	34.0	34.7	22		58	38.5	39.6	30		58	43.5	43.8	. 37	

Observers—J. V. and W. J. P., who alternated from 15h 52m to 16h 02m.

Observer-W. J. P.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Thur	sday, April	28, 1904			M	agnet	scale inv	erted	Wed	nesday	, April	27, 190	ļ			Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m 16 00	d d 53.0 51.9	0 1	-13.6	h m 18 00	d 55.2	d	0 ,	-13.0	h m 20 00	d	d	9 /	•	h m 22 00	d	d	22 36	-16.6
02 04	52.8 51.3	22 27 28 28	-13.0	02	54.9	54.7 54.1	22 23	-13.0	02	43.2 42.6	43.8	22 37 36	-15.0	02	43.0 42.8	43.0 43.3	36	-10.0
<b>o</b> 6	53.5 51.9	26		04 06	54.6 54.8	53·9 54·0	24 24		04 06	42.3 42.3	42.4 42.6	35 35		04 06	42.7 42.6	43.3 43.0	36 36 36 36 36	
10 80	54.7 53.1 55.5 54.1	24 23		08	56.0 56.1	55.2 55.8	22 21		08	42.3 42.0	42.4 42.4	35 35		08	42.3 42.1	$\frac{42.9}{42.7}$		
12 14	55.7 54.7 55.1 54.6	22 23	-13.4	12 14	55.0 54.0	54·3 53·4	23 25	-13.1	I2 I4	42.0 41.9	42.6 42.5	35 35	-15.2	12 14	41.6	42.4 42.1	35 35	-16.9
16 18	55.1 54.8	23	-3.4	16 18	53.9	53.2	25	-3	16	42.2	42.8	36	-3.2	16 18	41.1	41.5	34	10.9
20	54.9 54.9 54.7 54.2	23 24 26		20	54.0 54.1	53.8 53.6	24 25		20	42.0	42.7 42.6	35 35 36		20	41.8	42.2 42.6	35 35	
22 24	52.7 52.7 52.0 51.7	20 28		22 24	53.0 52.0	52.I 51.I	27 28		22 24 26	42.6	43·4 43·4	<b>3</b> 6		22 24 26	41.7	42.3 42.1	35 35	
26 28	52.4 51.9 52.7 52.0	27 27		26 28	53.1	51.0 52.2	28 27		26 28	43.0 43.3	43.6 43.8	37 37		26 28	41.8 41.6	42.2 42.0	35 35	
30 32	52.7 52.1 52.9 51.9	27 27	-13.3	30 32	55.7 57.1	54.8 56.8	22 20	-13.3	30 32	43.I 43.3	43.8 43.8	37 37	-15.5	30 32	41.8 42.1	42.2 42.2	35	-17.0
34	53.2 52.1	27		34	58.2	58.0	18		34	43.6	43.9	37 38		34 36	42.3	42.3	35 <b>3</b> 6	
34 36 38	54.I 53.0 55.I 54.2	25 23		36.4 38	58.0 57.0	57.7 56.5	18 20		34 36 38	43.8 43.6	44.0 43.9	37		38	42.0 42.0	42.2 42.2	35 35 36	
40 42	55.8 55.0 56.0 55.5	22 22		40 42	57.0	56.2 56.1	20		40 42	43.7 43.6	43.7 43.8	37 37 38 38 38		40 42	42.5	42.7 43.3	36 37	
44 46 48	55.4 55.1 55.9 54.9	22 22	-13.3	44 46 48	56.1 57.1	56.0 55.7	2I 2I		44 46 48	43·5 43·4	43.9 44.1	38	-15.8	44 46	43·3 43·3	43.6 43.7	37 37	-17.2
48	57.0 56.2	20		48 50	57.0 56.8	56.3 56.1	20 21		48	43.7	44.5	38 40	15.0	48	43.3	43.8	37 38	
50 52	56.3 55.9 54.0 53.8	21 24 28		52	56.7	56. <b>o</b>	21		50 52	45.2 45.6	45.6 46.1	41		48 50 52 54 56	43·3 43·1	43·9 43·3	37	
54 56	52.I 51.3 52.6 51.9	28 27		54 56 58	57.0 57.3	56.3 57.0	20 19		54 56 58	45.6 45.3	46.0 45.8	41 40		54 56	43.0	43.6 43.1	37 37 36	
58 17 00	54.1 53.6 51.9 51.1	25 28	-13.4	58 19 00	57.9 57.9	57.2 57.2	19 19	-13.9	58 21 00	45.2 44.8	45·4 45·3	40 40	-16.o	58 23 00	42.3 42.3	43.I 42.8	36	-17.4
02	59.1 58.8	17	-3.4	02.4		58.0 58.1	18 18		02 04	44.1	45.6	39		02	42.0	42.6	36 36	-/-4
04.2 06	55.1 54.0	17 24		04 06	59.1	59.0	16		06	44.5 44.6	45.0 44.8	39 39		04 06	41.1	41.7 41.0	34 33	
08 10	51.8 50.6 49.2 48.3	29 33		08 10	59.7	59.6 59.1	15 16		08 10	44.7 44.8	44·7 44·9	39		08 10	39·3 39·6	39·9 40·5	31 32	
12 14	49.9 49.1 51.8 51.0	3I 28	-13.3	I2 I4	58.2 57.9	58.0 57.9	18	-14.0	I2 I4	44.8	44.9 45.1	39 40	-16.o	12 14	36.8 38.3	37 · 3 38 · 6	27 29	-17.5
16 18	53.8 52.9	25		16 18	58.0 57.9	58.0 57.5	18		14 16 18	44.7 44.8	45.0 45.1	39 40		14 16 18	36.5 38.0	37.0 38.6	27	7.5
20	55.1 54.2 56.4 55.9	23 21		20	57.I	57.0	20		20	44.6	44.8	39		20	37.0	37.2	29 27 28	
22 24	56.8 56.1 54.0 54.0	2I 24		22 24	56.1	56.3 56.0	20 21		22 24 26	44.6 44.9 44.8	44 9 45 0	39 40		22 24	37·4 36.8	38.0 37.7	28	
26 28	53.2 52.8 53.2 53.2	26 26	,	24 26 28	55.9 55.1	56.0 55.8 54.7 56.4	22 23		26 28	44.8	45.0 45.0	40 40		24 26 28	37.I 38.3	38.1 39.1	28 30	
30	52.6 52.2	27 26	-13.0	30 32	56.9 53.0	56.4 52.6	20 26	-I4.I	30 32	44.9 44.6 44.5	44·7 44·7	39 39	-16.2	30 32	37.2 36.2	38.0 36.8	30 28 26	-17.6
30 32 34 36 38	52.9 52.7 52.9 52.5	26		34	53.9	53.7	25		34	44.4	44.8	39		34	35-3	36.2	25 26	
36 38	53.0 53.0 53.9 53.7	26 25		36 38	53·3 53·1	52.8 52.9	26 26		36 38	44·3 43.6	44.7 44.0	39 38		34 36 38	35·9 35·3	36.3	25	
40 42	54.1 54.0	.24	٠.	40 42	53.2 53.3	52.9 53.1	26 26		40 42	43.0	43.3 43.8	37 37		40 42	35.3 35.6	36.0 36.0	25 25	
44	53.9 53.9 52.1 51.9	24 28	-12.9	44	52.9 52.4	52.6 52.2	26 27	-14.4	44 46	43·3 43·7 43.8	44.3 44.6	37 38 38	-16.5	44	35·7 35·5	36.0 35.8	25 25	-17.8
44 46 48	51.4 51.2 52.0 51.8	29 28		46 48	53.I	53.0	26		48	44.I	44.9	39		44 46 48	35.3	35.6	25	
50 52	53.8 53.0 54.8 53.9	25 24		50 52	54.8	53·9 53·9	24 24		50 52	43.8 43.6	44.7 44.1	38 38		50 52	35.6	36.0 36.0	25 25	
50 52 54 56 58	55.2 54.I	23		54 56 58	55·5 56·3	54.7 55.8	23 21		54 56 58	43·3 43·I	44.0 43.6	37 37		52 54 56	35·5 35·0	36.3	25 26 25	
58	55.9 54.9 55.0 54.1	22 24		58	56.4	55.8 55.8	21	-14.7	58		43.3	37		58	35.0 34.8	36.o	25	0 ~
				20 00	50.0	22.0	21	14./				,		24 00	34.0	36.o	25	-18.0

Correction to local mean time is — 30s. 90° torsion = 17.'58. Torsion head at 15h 40m read 49° and at 20h 20m read 40°. Observer—R. R. T.

Correction to local mean time is + 21.5s. 90° torsion = 19.19. Torsion head at oh oom read 57° and at 24h 15m read 42°. Observer—W. J. P.

#### SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

#### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Righ	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp C.
h m	d d	0 /	•	h m	d d	0 /	•	h m	d d		•	h m	d d	• ,	•
02	33.8 36.2 34.3 37.1	21 48 49	-14.9	22 00 02	35.7 38.2 34.0 35.1	2I 5I 47	-16.2	0 00*	47 I 44 52 0 49		-16.8	2 00 02	26.0 24.0 24.2 21.0	23 02	-17.5
04 06	35.0 37.2 42.0 44.8	2I 50 22 OI		04 <b>0</b> 6	37.3 39.2 38.2 40.0	53 54		04 06	47.0 45.	3 29		04 06	27.8 24.0 30.4 26.4	23 OI 22 57	
o8	45.0 47.9	06		08	35.7 36.1	49 48		о8	45.9 44.	31		08	35.1 32.5	48	
10 12	51.7 56.9 52.0 56.0	18		10 12	34.8a 36.1b	48 50		IO I2	47.2 46. 47.8 46.			I0 I2	37.I 34.I 37.3 34.I	46 45	
14 16	49.9 54.1	14	-15.0	14 16	32.9b	44	-16.5	14 16	44.5 43.	4 32	-17.0	14 16	39.0 36.0	42	-17.5
18	47.3 51.3 47.1 51.1	10		18	36.1 37.3	44 50		18	44.5 44. 46.8 46.	7   28		18	35.0 31.9	47 49 58	
20 22	46.4 49.8	08		20 22	37.0 37.3 34.0 34.9	51 47		20 22	48.4 47. 46.3 46.	9 26 1 20		20 22	28.3 26.1 32.0 28.2	58 54	
24 26	41.1 46.1	22 01		24 26	35.2 36.1	49		24 26	46.9 46.	5 28		24 26	30.1 27.9	54 56 56	
28	37.2 41.0 39.0 42.1	21 54 56		28	36.0 37.0 28.0 29.8	50 38		28	45.8 45. 46.8 46.	28		28	30.1 27.9 28.3 25.7	22 59	
30 32	38.0 41.3 37.0 40.7	55 54	-15.3	30 32	30.0 30.7 35.1 35.3	40 48	-16.8	30 32	48.0 47. 48.4 47.		-17.1	30 32	26.2 24.7 23.9 21.7	23 OI 05	-17.7
34	32.9 36.5	21 47		34	33.0 34.0	46		34	48.1 4%.	2 26	İ	34	22.I 20.0	23 08	
34 36 38	40.8 45.8 51.2 53.0	22 OI I5		36 38	32.2 34.2 35.2 39.2	45 51		34 36 38	49.0 48. 47.2 46.			36 38	27.3 25.3 28.9 26.9	22 60 57	İ
40 42	43.2 45.9 37.1 41.0	22 03 21 54		40 42	35.2 38.0 34.8 37.8	50 50		40 42	45.6 44. 38.9 37.			40 42	30.3 29.2 31.2 29.0	55 54	
44	33.3 35.9	47	-15.6	44	37.9 42.3	56	-16.9	44	39.0 37.	42	-17.2	44	32.0 30.2	52	-17.7
44 46 48	28.0 34.8 26.2 33.2	42 40		46 48	40.I 44.2 36.0 40.I	59 52		44 46 48	38.9 37. 42.0 41.			46 48	28.7 27.2 29.2 27.9	57 56	
50 52	33.0 39.2 31.9 36.1	50 46		50 52	38.8 45.0 47.0 51.2	2I 59 22 IO		50 52	43.0 42. 44.I 43.			50 52	32.0 30.2 33.2 31.9	52 50	
54 56	28.7 32.3	41		54	45.4 51.0	08		54 56	46.1 44.	7 30		54	32.5 31.0	52	
58	35.I 39.I 32.I 36.6	51 47		56 58	42.8 48.6 38.9 43.1	22 05 21 57		50 58	47.2 45. 47.0 45.	9 28		56 58	31.0 29.6 28.9 27.0	54 22 57	
1 00 02	34.0 39.1 39.2 45.3	50 59	-15.8	23 00	44.7 49.3 46.0 49.6	22 07 08	-17.0	I 00 02	46.3 45. 45.9 45.		-17.3	3 00	24.8 23.9 24.1 22.9	23 03 04	-17.8
04	37.0 43.0	56		04	46.2 49.8	08		04	46.8 45.	5 29		04	25.7 24.0	23 02	
<b>o</b> 6 <b>o</b> 8	38.1 44.0 41.2 46.2	2I 57 22 02		06 08	55.9 58.5 Lost	23		06 08	46.8 45. 46.0 45.	·		06 08	29.0 27.5 29.0 27.1	22 57 57	
10 12	40.2 45.5 37.7 42.0	22 00 2I 55		10 12	59.2 62.0 58.2 60.9	28 26		10 12	46.2 45. 46.7 45.			I0 I2	28.0 26.3 39.0 37.9	59 41	
14	37.0 40.2	53	-16.0	14 16	58.3 60.2	26	-17.0	14	46.9 46.	0 28	-17.3	14	30.0 29.0	55	-17.7
16 18	36.9 41.0 39.2 42.8	54 57		18	56.7 59.0 54.1 55.2	24 19		16 18	47.0 46. 47.8 46.	9 27		16	29.2 28.6 29.0 28.8	56 22 56	
20 22	40.9 43.9 41.0 44.1	59 60		20 22	58.4 60.5	26 29		20 22	47.3 46. 47.0 46.	- 1 %		20 22	24.6 24.2 23.0 23.0	23 03	\$1
24	39.3 42.3	57		24 26	57.0 58.8 56.0 57.8	24 22		24	47.0 45.	28		24	21.0b	08	
20 28	38.0 40.9 37.0 39.2	55 53		28	56.8 57.8	23		26 28	46.6 45. 43.9 43.			26 28	15.0 15.0	18	
30 32	37.2 39.8 37.0 38.8	53 52	-16.0	30 32	55.6 56.0 56.9 58.1	20 23	-17.2	30 32	43.4 41. 44.2 43.		-17.5	30 32	15.7 15.4 15.8 15.7	17	-17.5
34	38.3 40.2	54		34	53.2 55.1	23 18 16		34	45.9 44.	7 30		34 36	15.0 14.3	18	
34 36 38	36.3 38.2 40.0 41.0	51 56		36 38	52.0 53.5 56.2 57.7	22		36 38	47.I 46. 48.0 45.			30 38	10.2b 9.5 9.2	25 27 26	
40 42	42.I 43.0 4I.9 42.9	60 59		40 42	55.8 56.2 56.8 57.5	2I 23		40 42	48.6 47. 43.0 42.			40 42	10.2 9.8 9.7 8.9	26 27	
44	39.2 40.3	55	-16.1	44	55.9 56.2	21	-17.3	44 46	35.8 34.	0 46	-17.6	44	7.2 7.0	30	-17.3
44 46 48	38.1 40.2 39.1 42.2	54 57		44 46 48	55.3 56.1 56.8 58.2	20 23		48	35·4 33· 31.0 29.			46 48	9.8 9.7 6.9 6.8	26 30	
50 52	39.3 42.I 39.0 42.0	57 56		50 52	58.5 58.9 53.9 54.7	25 18		50 52	32.0 31. 34.8 33.	0 52		50* 52	41.8 35.1 38.1 32.5	43 48	
50 52 54 56 58	38.9 42.0	56		54	50.9 52.0	14		54	37.5 35.	9 44		54 56	43.0 37.2	40	
56 58	38.0 4I.0 34.9 37.I	55 49		56 58	51.9 52.9 52.4 53.0	15 16		56 58	39.0 35. 31.1 29.			56 58	42.3 37.0 40.0 35.2	41 44	

Correction to local mean time is -56.5s.  $90^{\circ}$  torsion = 18.27. Torsion head at 19h 29m read  $40^{\circ}$  and at 20h 25m read  $51^{\circ}$ .

Observer-J. V.

Observer-J. V.

1		1	1	1			1				1		· · · · · · · · · · · · · · · · · · ·	1 1			<u> </u>	1
hr'r ime	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca read	ings	East decli- nation	Temp. C.	Chr'r time	Scal readi	ngs	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
m	d d	• ,	•	h m	d	đ	0 ,	0	h m	d	d d	0 ,	•	h m	đ	4	0 ,	
00	64.0 67.2 63.0 67.7	23 39 38	-16.2	6 00	53.7 48.1	55·3 50.8	24 20 12	-14.8	8 00* 02		54.I 54.I	22 36 37	-12.4	TO 00	64.3 66.0	63.7 65.2	22 24 22	-10.8
04 06	59.4 66.0	34		04 06	43.2	44.0	03		04 06	57.0	55.8 57.1	35		04 06	65.9 67.1	65.1 66.1	22 20	
80	56.0 61.3	27 28		o8	47.5	49.0 48.4	10		08.5	60.9	58. T	33 31		08	68.9	68.5	17	
IO I2	60.8 66.0 59.6 64.7	35		10 12	51.1 52.8	52.9 55.0	16		10 12	60.1 62.8	58.0 60.8	32 27		10 12	69.4	69.2 66.7	16 19	
14	63.2 69.7	40	-16.5	14	46.9	47.4	08	-13.8	14 16	65.0	62.9 62.1	24	-I2.I	14 16	68.8	68.8	16 14	-то.б
16 18	63.0 69.0 71.0 76.0	39 51		18	45.1 42.3	47.0 44.1	07 02		18	62.9	60.8	25 27		18	70.3 68.0	70.0 67.5	18	
20 22*	70.9 75.3 39.0 48.0	23 50 24 03		20 22	51.3 51.3	52.6 52.8	16		20 22		60.1 59.2	29 30		20 22	69.8 69.4	69.8 68.5	15 16	
24	42.9 50.3	08		24	52.2	54.8	18		24	60.8	59.0	30		24	67.8	66.9	19	
26 28	42.9 48.2 36.0 41.1	24 06 23 55		26 28	50.0	51.5 51.0	14 14		26 28	61.9	59.8 60.3	20 28		26 28	66.9	60.2 65.9	29 20	
30 32	36.2 37.1 27.0 32.9	52 41	-16.0	30 32	51.0 52.3	52.6 54.1	18	-13.2	30 32.2		60.3 60.2	28 28	-12.0	30 32	67.1	66.0 65.2	20 20	-10,2
34 36	27.1 32.3	41		34	46.1	48.0	08		34	61.0	60.8	28		34	72.0	70.0	13	
36 3 <b>8</b>	26.0 32.0 23.8 28.0	40 35		36 38	44.0	46.3 47.1	05 08		36 38	60.1	61.2 59.0	27 31		34 36 38	74.5	72.0 70.8	12	
40	21.8 26.3	32		40	43.8	46.0 44.1	05		40 42	59·3 62·4	57.8 60.8	32 28		40 42	74.2 77	73.2 .7a	09	
42 44	2I.0 25.2 22.0 25.5	31 32	-15.8	42 44	41.1	43.2	00	-12.8	44	63.9	62.8	25	-11.8	44	78.0	78.o	02	-10.0
46 48	28.5 31.2 37.7 40.8	41 56		46 48	43.3	45·3 43·2	24 00		44 46 48		65.3 67.2	21 18		46* 48	53.0 52.9	49.9 50.0	33 33	
50	34.0 38.0	52 36		50 52	39.3	41.0 37.8	23 57 52		50 52		69.6 69.0	14 16		50 52	48.9	45.8 45.5	39 40	
52 54	24.8 28.2 13.1 16.0	17		54 56	35.9	37.0	51		54 56	69.5	68.8	16		54	48.0	45.9	39	
56 58	14.0 16.0	18 21		56 58	37.8	39.8 41.7	55 58		50 58		68.8 66.0	16 20		54 56 58	45.6 42.7	41.4 38.8	45 50	
00	19.1 21.7	26	-15.8	7 00	40.1	41.9	50	-12.6	9 00		61.3 63.1	27 25	-11.б	11 00 02	41.8	38. I 42. I	51	-9.9
02 04	22.2 24.2 22.8 24.0	31		02 04	39.0	40.9 39.1	57 54	,	04	60.1	58.2	32 38		04	44.3	41.2	45 46	
д 8б	23.2 24.2 24.7 25.0	32 34		об 08	37·7 39·2	39.8	55 57		06 08	55.8 58.3	54.1 57.6	38 34		06 08	45.4	42.I 42.2	45 45	
10	25.8 27.8	36		10	39.0	40.8	23 58		IO I2	60.9	59.8 60.2	30		10 12	45.3	41.1	46	
12 14	25.6 26.1 27.0 27.0	35		I2 I4	41.8	42.I 43.0	24 00	-I2.F	14	64.7	63.1	29 24	-11.3	14	47·5 50·5	43.4	42 37	-9.8
16	20.0 20.8	40	-15.6	16.3 18	44.I 44.5	44.3	04		16		68.5 69.7	16 14	ł	16 18	51.0 52.0	48.1 48.8	36 34	
18 20	29.8 30.3 31.0a	42	ļi	20	47.8	48.8	10		20	73.1	72.5	10 16		20	55.1	51.1 56.0	30	
22 24	31.1 31.5 28.0 28.8	44 30		22 24	50.7 47.0	51.9 47.9	00		22 24	69.6 67.9	66.9	10		22 24	50.2	56.3	23 23	
26	28.0 28.3	38	.	26 28	47.0 44.0	47·3 45.2	08 04		26 28	68.0 66.4	67.I	18 21		26 28	53.8 51.0	50.I 43.I	32 40	
28 30	27.0 27.9 26.2 27.1	37 36	-15.3	30	47.3	48.8	10	-12.4	30	64.3	63.8	21	-11.0	30	51.9	49. I	34	.
32	25.7 26.0 21.0b	35 27		32 34	52.5 58.0	52.7 59.1	17 26		32 34	62.1 61.0	60.2	28 29		32.5 34	49.9	50.4 47.8	32 37	-9.6
34 36	18.20	23		36	59.0	60.9	20 28		36 38	67.8	67.0 59.7	19 30		36 38	51.9 50.5		34 36	
38 40	24.0 25.1 30.0 32.8	23 44		38 40	59.8 54.9	60.τ 55.8	21		40	60.9	60.I	20		40	52.4	48.8	34	
42	42.0 42.3	24 00		42 44	53.7 53.1	54.I	10	-12.1	42 44		57·5 57·3	33	-10.9	42 44	44.I	43.9 42.5	44 45	-9.6
44 46	51.0 <i>a</i> 51.7 52.2	14 16	-15.0	46	55.I	55.4	21		46	53.I	52.I	42		44 46 48	49.2 55.8	48.7	37 28	
48	50.1 51.0	I4 I2		48 50	59.4 62.6	60.2 63.0	28 33		48 50	56.7	53.0 55.9	40 36		48 50	63.1	60.o	17	
50 52	47.1 48.2	09		52	62.7	64.0 68.3	34		52 54	58. I		34 32		52	61.3 60.1		18	
54 56 58	50.0 50.4 55.5 57.1	13 23		54 56 <b>*</b>	68.2 49.2	52.8	42 57		56	61.7	61.0	28		54 56	55.6	55.3	26	
58	60.5 62.0	30		58 8 00	49.0	53.5 53.0	57	-11.8	58	62.1	01.5	27		58 12 00		.4b 44.9	34 42	

Correction to local mean time is — 8s. 90° torsion = 16.'35. Torsion head at oh oom read 51° and at 8h 45m read 49°. Observer—J. V.

Correction to local mean time is +3m 46s. 90° torsion = 16.'54. Torsion head at 7h 35m read 58° and at 12h 20m read 45°. Observer—R. R. T.

	Tueso	iay, M	ay 3, 1	904				Magn	et scale	erect	Wedı	nesday	, May	4, 1904			Ma	ignet s	scale inv	rerted
	Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp
	h m	ď	d	0 ,	•	h m	d	d	0 /		h m	d	đ	0 /	•	h m	d	d	.,	
:	12 00	49.6	50.9	22 10	-12.0	14 00	44.6	51.1	22 07	-10.7	0 00*	33.1	29.2	22 42	-15.9	2 00	70.0	67.0	22 22	-16.4
	02 04	51.1 52.9	52.9 55.4	13 17		02 04	47.0 48.3	53.8 54.7	II		02	35.0	32.0	38		02	69.1	65.9 66.0	24	
	06.2	55.9	57.4	20		06	50.6	56.3	13		04	32.0	27.0 18.1	22 45 23 0I		<b>0</b> 4 06	68.8	67.0	23	
	o8	54.5 56.8	55.9	18	1	80	54.3	50.7	21		08	22.2	20.3	22 58		08	68.1	65.0	25	
	10	56.8	58.5	22		10	55.9	60.8	23		10	28.0	22.3	52		10	67.8	64.8	25 26	
	I2 I4	55.8 54.2	56.9 55.9	20 18	~II.Q	I2 I4	56.8 56.1	60.3 59.5	24 22	-10.7	12	26.8	25.2	50 38	-16.2	12	67.0 66.0	64.5	26 28	-6 -
	16	56.1		20	-11.9	16	53.5	57.7	19	10.7	14 16	35.2 32.8	32.0 30.9	36 41	-10.2	14 16.3		62.2	30	-16.3
	18		.ob	15		18	53.1	56.8	18		18	29.2	20.5	52		18	63.6	61.8	31	
ŀ	20	51.2	-	13		20	54.1		19		20	46.8	45.6	19		20	60.0	58.0	37	İ
	22 24	57.0 57.8	57·3 58.9	21		22	56.3	58.0 57.9	2I 2I		22	51.7	49.5	12		22	61.0	59.0 58.9	35 36	i
	24 26	52.3	54.8	23 16		24 26	55.7	57.4	20		24 26	45.6 43.1	42.9 41.9	22 24		24 26	57.8	54.9	41	
	28	50.5	53.2	13		28	55.7	57.7	21		28	40.2	37.1	30		28	55.2	52.3	45 48	
	30 32	52.8 51.9	54.8	16	-11.7	30	55.1	57.0	20	-10.6	30	48.9	45.2	17	-16.3	30	53.0	50.6		-16.4
	34	47.3	54·4 48·7	15 07		32 34	53.1	55·9 53·9	17		32	49.1	47.I 42.0	15		32 34	51.8 49.9	49.2 46.9	50	
	34 36 38	48.2	49.6	08		36 38	49.6	51.7	11		34 36	43.I 36.5	34.0	24 36		36	47.0	44.8	54 22 58	
	38	46.0	48.1	06		38	49.8	52.1	12	i	38	31.2	29.4	43		38	38.8	37.7	23 10	
	40 42	46.1 47.8	47.7	05 08		40 42	49.8	52.1 53.8	12 14		40	25.9	22.5	22 53 23 06		40	38.2	36.9	II	
	44	50.3	52.0	12	-11.3	44	51.9	53.3	14	-10.5	42	17.0 33.1	15.2 29.1	23 00	-16.7	42	31.0 29.1	28.9 27.3	23 25	-16.4
	44 46 48	49.8	51.1	11		44 46	50.1	52.0	12		44 46 48	37.0	35. I	34	10.7	44 46	30.0	28.2		10.4
	48	45.5	46.4	04		48	48.1	50.8	09		48	32.4	29.1	43		48	32.9	32.1	24 18	
	50 52	47.0 45.I	48.3 47.4	06		50 52	47.3 46.1	49.9 49.0	06		50	36.2	34.6	35		50	30.0	27.9	24 26	
	54	48.6	51.9	10		54	47.7	50.3	09		52 54	38.9 37.3	36.9 36.1	32 33		52 54	28.8	27.I 27.2	25	,
	54 56	49.2	52.8	12		56	49.7	52.4	12		54 56	44.7	43.6	22		56	23.5	20.3	35	
	58	48.3		II I2	-11.0	58 15 00	48.7	51.3 51.1	10	-10.7	58	42.4	30.1	27		58	18.7	17.3	41	
	13 00 02	49.1 54.6		20	-11.0	02	46.9	48.8	07	-10.7	I 00 02	41.0	38.1	29	-16.7	3 00	17.3	15.9 22.0	44	-16.2
	04	52.2		17		04	46.1	48.4	06		04	33.9	31.9 26.0	39 47		02	25.0 33.0	31.7	33 19	
	<b>o</b> 6	50.2		14		06	44.5	46.3	03		o6	44.9	39.0	25 16		06	33.8	32.9	17	1 *
	08 10	47.I 52.7		10		08 10	43.7	45.1 46.1	0I 22 02		08	49.0	47.0			08	28.8	27.9	25	
	12	48.1		II		12	41.8	44.4	21 59		10 12.4	43.0	39.8 33.2	26 37		10 12	25.3 27.5	23.9 26.9	31 27	
	14	48.7	54.8	13	-10.7	14	41.1	44.I	59 58	-10.8	14	34.1	31.8	39	-16.8	14	31.8	30.1	21	-16.0
	16 18	44.0	47.8	04 06		16.3		43.9	58 58		16	32.2	25.5	22 46		16	31.0	29.5	22	
	20	45.6 51.1	48.6 54.2	14		20	4I.3 4I.I	43.8 43.9	21 58		18* 20	38.8	30.8	23 15		18	31.5	30.0	21	
	22	53.3		17		22	42.0		22 00		22	9.3	34·5 7·0	57		20 22	30.5	29.1 28.0	23 24	
	24	51.0		15		24	42.2	45.1	22 00		24	23.1	19.1	36		24.5		28.0	25	
	26 28	49.1	52.7 43.1	22 I2 2I 56		26 28	41.2 41.0		2I 59 58		26	24.I	19.1	36		26	30.7	29.0	23	
	30	36	.20	48	-10.8	30	39.6	42.8	56	-11.0	28 30	14.0 43.1	35.8	23 08	-16.7	28 30	32.8	31.0 34.0	19 15	-16.0
	32	31.8	33.1	43	1	32	40.5	43.I	21 57		32	52.I	48.0	22 51	10.7	32	37.0	35.8	12	1070
	34 36 38		.oa	21 53		34	42.1		22 00		34	39.0	33.9	23 12		34	37.0 38.8	37.2	10	}
	30	43.1	44.9 46.3	22 OI OI		36 38	42.9	45.2 43.5	22 01 21 58		36 38	42.2	40.0	23 05		34 36 38	39.0 38.7	37.8	10	
	40	41.9	47.3	22 02		40		42.3	56		40	54.8 54.0	51.0 50.9	22 46 47		36 40	38.0	37·3 37·0	10	
	42	39.9	45.9	21 59		42	40.I	41.3	56		42	56.9	54.0	43		, 42	36.2	32.I	16	
	44 46.5	42.9	48.8	22 04	-10.7	44 46 48	41.1	42.5 41.0	57 55	-11.0	44 46 48	46.2	43.8	59 58	-16.6	42 44 3 46 48	36.2 38.2	37·7 38.0	10	-15.8
	48.5	45.9 47.8	52.I 53.3	09		48	39·3 37·8	39.1	52		40 48	47.7	44.0 54.1			40 42	38.3 38.0	38.0 37.5	10	٠.٠
	50	46.6	53.I	10		50 52	37.8	38.8	52		50	59.9	58.0	42 37		50.0	37.5	37.0	11	
	52	41.9	47.I	22 02		52	38.3	39.9	53		52	55.0	52.8	45		52	38.4	38.2	09	
	50 52 54 56 58	37.8 41.6		2I 57 22 02		54 56		39.8 41.8	53 57		54	50.3	49.9	51		52 54 56	40.8	40.0	06	
	58	41.0		21 56		54 56 58	42.2	43.I	59		54 56 58	66.5	59.0 65.0	36 26		50 58	42.0 42.8	41.8 42.0	04	1
	-	*				16 00	42.3	43.4		-11.0			- 5-5	-		50	T	T	53	

Correction to local mean time is +3m31.5s. 90° torsion = 16.'64, Torsion head at 11h 30m read 69° and at 16h 15m read 63°, Observer—R. R. T.

Observer-J. V.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

ır'r	Scale readings	East decli-	Temp.	Chr'r	Scale readings		Temp.	Chr'r	Scale readings	East decli-	Temp	Chr'r	Scale readings	East decli- nation	Tem
me	Left Right	nation	C.	time	Left Right	nation	C.	time	Left Right	nation	C.	Linie	Left Right	Hation	
m 00	d d 42.2 41.9	. ,	0	h m 6 00	d d	23 13	-11.8	h m 8 00.2	d d 51.2 50.3	。 , 22 50	-10.3	h m	d d 58.2 56.7	22 39	-9.5
02	40.8 40.5	23 04 06	-15.3	02	d d 36.0b 33.8 33.8 35.8 35.1	16		02	51.8 50.5	49	-10.3	02	58.2 56.7 56.8 55.3 57.2 56.0	42 41	
04 06	37.0 36.9 34.8 34.3	12		<b>o</b> 6	37.5 37.1	14		04 06	51.2 50.3 52.0 50.8	50 49		05 08	57.5 56.2	40 40	
08 01	35.0 35.0 36.9 36.8	14		08 10	39.0 38.0 42.5 42.0	09		08	52.6 51.6 52.8 51.8	47		10	58.2 56.8	39	
12 14	38.1 37.8 37.0 36.7	I0 I2	-15.1	12 14	42.0 4I.4 40.1 39.2	04 07	-II.2	12 14	53.0 51.8 53.1 51.8	47	-10.2	12 14	59.3 57.3 59.0 57.6	39 38 38	-9.
16 18	36.5 35.9 34.8 34.2	13		16 18	41.6 40.8	23 05 22 58		16 18	52.5 51.3 53.0 51.6	48		16 18	58.5 57.2 57.9 56.5	39 40	
20 22	33.1 32.8 32.9 32.1	15 18 18		20 22	49.9 48.7 51.8 51.1	52 49		20 22	Lost Lost			20	58.0 56.5 58.0 56.6	40 40	
24 26	35.2 34.9	14 06		24 26	48.5 48.2	54 58		24 26	Lost Lost			24 26	57.0 55.6 57.3 56.1	41 40	
28	40.7 39.9	<b>o</b> 6	0	28	45.5 45.2 49.3 49.0	52	TO 7	28	52.7 51.6		70.7	28 30	59.0 57.6 59.7 58.3	38	<b>  -9</b> .
30 32	36.0 34.1 34.5 34.2	14	-14.8	30 32	52.5 52.1 49.9 48.0	47 22 53	-10.7	30 32	53.8 52.6 53.3 52.8	46	-IO. I	32	59.I 57.6	37 38 40	
34. 36	26.5 26.2 24.1 23.8	28 32		34 36	36.0 <i>b</i> 32.8 32.0	23 13		34 36 38	54.0 53.1 53.6 52.6	46		34 36 38	57.1 56.1	41	
38 40	24.9 24.0 27.2 27.I	3 <sup>T</sup>		38 40	42.8 42.0 42.2 40.0	03		38 40	53.1 52.7 53.3 52.8	46		40	57.2 56.2 56.1 55.1	40 42	
42 44	33.0 32.2 34.9 34.I	18	-14.4	42 44	39.8 39.5 42.3 42.0	07	-10.2	42 44	53.5 52.9 52.2 51.8	46 48	-10.0	42 44	58.4 58.0 60.3 59.7		-9
ф 48	36.0 35.1 35.6 35.3	14		44 46 48	44.4 43.3 43.0	0I 02		44 46 48	51.6 51.3 52.9 52.3	49	1	44 46 48	60.2 59.5	35 36 36 36	
50	35.0 34.8	15		50 52	41.9 41.0 44.3 42.9	04		50 52	52.8 52.7 53.9 53.4	47		50 52	60.0 59.4 60.6 60.0	36 35	
52 54	34.8 34.5 34.5 34.2	15 16		54 56	48.2 47.0	22 55 53		54 56	54.7 54.3	3 44		54 56	59.8 59.3 58.5 57.5	36	
56 58	35.7 35.2 35.2 35.0	14		58	49.0 48.5	53	10.0	58	54.5 54.3 53.9 52.3	46		58	61.1 60.5 58.1 57.9	34	-9
00 02	35.2 35.0 35.9 35.8	14	1 1	7 00 02	51.5 51.0 51.1 50.4	49 50	-10.0	9 00 02.2		3 44		02	58.0 57.3	39	
<b>0</b> 4 <b>0</b> 6	36.9 36.8 37.0 37.0	I2	1	04 06	49.8 49.5 50.0 49.8	52 52		04 06	54·3 53·3 53·8 52·3	3   46		04	60.1 59.7 60.0 60.0	35	
80 10	36.0 35.9 Lost	13		08	49.0 48.9	53		08	53.8 52.9 54.6 53.0	) 46 5 44		08	58.9 58.7	37	
12	37.5 37.2 37.3 37.0	11	_	12 14	45.0 44.0 39.8 39.2		-10.0	12 14	55·3 54·· 54·7 53·	4 43		12 14 16	59.5 59.5 60.3 60.1	35	8
14 16 -0	35.I 35.0	14		16 18	45.0a 45.0 44.2	22 59		16 18	54.7 53. 55.3 54.	7 44		18	60.8 60.3 60.2 59.6	36	
18 <i>2</i> 0	37.7 37.0 39.1 39.0	08		20 22	46.2 45.0 46.8 46.0	58		20	55.2 54. 55.2 54.	9 44	.	20 22	61.2 60.8 60.3 59.9	34	.
22 24	41.2 41.0	05		24	42.9 41.9	23 03		24	55.8 54.	5 43		24 26	60.8 · 60.6 62.3 61.9	5 34	-
26 28	40.2 40.0	06		26 28	48.9 48.0 50.2 49.2	52		26 28	55.8 55. 58.1 57.	3 39		28.	3 60.3 59.2	7   35	;
30 32	39.0 37.9 36.0 35.2	09 14		30	51.0 50.4 51.1 50.8	50		30 32	58.6 57. 59.0 58.	4 37	7	30 32	60.6 61.	2 34	1
34 36 38	36.9 36.0 37.0 36.5	12	1	34 36	52.0 51.0 53.2 52.0	47		34 36	60.0 59.			34 36	63.3 62.	5 31	[
38	38.3 37.8	10	1	38 40	53.2 52.2 52.5 50.8	47 48		38 40	58.4 57. 49.4 47.	3 39 0 22 54		38 40	63.1 62.	5 34	1
40 42	39.2 38.9	08		42	52.0 51.0 52.6 51.1	49	-10.2	42 44	37.3 36. 47.6 44.	6   23 1		42	63.3 62.		3 -
44 46	40.8 40.1 42.2 41.5	06 04		44 46	52.4 51.2	48		46.	3 55.3 54.	3 4	3	44 46 48	63.2 62. 61.7 61.	6   3:	I
46 48 50	39.8 39.0 41.0 40.3	08		48 50	54.9 53.2	45		48 50	56.I 55.	3 4	2	50	64.1 63. 68.5 67.	3 30	o
52 54	39.9 39.2 38.8 38.3	08	1	52 54	52.0 51.5 52.9 51.9	47		52 54	56.9 55. 57.6 56.	7 4	)	52 54	68.0 66.	8 2	4
52 54 56 58	40.3 39.8 42.3 42.1	07 03	1	54 56 58	52.2 50.8 51.9 51.0	49		54 56 58	58.4 57. 58.1 56.			54 56 58	66.0 65. 66.5 65.	3 2 2 2	6

Observers—J. V. and W. J. P., who alternated from 7h 52m to Observer—W. J. P. 8h o2m.

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Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d d	٥ ,	•	h m	d	d	· ,	•	h m	d	d	0 ,	0	h m	d	đ	0 ,	0
2 00	65.3 64.3 65.0 64.0	22 28 28	-8.5	I4 00 02	54.2 54.7	48.0 50.3	22 08 06	-8.6	16 00 02	48.2	46.8 46.8	22 I3 I3	-8.5	18 00 02.3	45.0 43.8	42.I 41.6	22 20 21	-8.7
04 <b>0</b> 6	66.8 66.0 67.0 65.9	25		04 06	49·3 47·0	43.7 42.6	15 18		04 06	47.6 47.6	45.8 46.3	15 14		04 06	43.I 41.8	40.2 39.0	23 25	
<b>o</b> 8	66.3 65.3	25 26		08	47.8	43.6	16		08	45.4	43.8	18		o8	41.0	38.2	26	
10 12	66.0 65.6 67.3 66.9	26 24		10 12	46.3	41.6 <b>3</b> 9.6	19 23 18		IO I2	44.8	43.8 43.3	18		I0 I2	40.9	38.0 38.2	26 26	
14 16	67.5 67.0 65.0 64.3	24 28	-8.4	14 16	47.0 50.0	42.8 46.9	18 12	-8.6	14 16	43.6	42.6 43.0	20 20	-8.5	14 16	40.7 39.8	38.9 38.8	26 26	-8.8
18	66.9 66.0 68.0 67.6	25		18	50.3	47.6	11		18	43.7	43.0	20 20		18 20	39.4 39.1	37·9 38·7	27	
20 22	70.0 69.3	23 20		20 22	53·5 54·6	50.0 51.0	05		22	43.I	43·3 42.8	21		22	39.9	39.2	27 26	
24 26	69.3 68.9	2I 20		24 26	54·3 56.8	50.5 53.3	06 02		24 26	43.0	42.8 41.8	2I 22		24 26	40.8 40.2	39.1 39.2	25 26	
28 30	71.0 70.4 69.3 68.8	18 21	-8.3	28 30	57·4 54·5	54.6 51.6	00 05	-8.7	28 30	41.5	41.0 41.0	23 23	-8.5	28 30	39.7 39.8	38.1 38.1	27 27	-8.9
32	70.7 70.3 70.3 69.9	I9 I9		32	55.I 57.3	52.6 55.0	04		32	42.0	41.4 42.0	23 21		32	39.6 40.2	39·3 40·2	27 26 25	
34 36 38	72.4 71.6	16		34 36	55.2	53.6	03		34 36	44.0	43.3	20		34 36 38	40.9	40.1	24	
40	72.0 71.5	17 15		38 40	55.6 55.5	54.0 54.5	02 02		38 40	43.6	$\frac{42.7}{42.5}$	20 21		40	40.3 39.3	39.9 39.0	25 27	
42 44	73.2 73.0 75.3 75.3	15 11	-8.4	42 44	54.0 52.6	53.0 51.3	04 06	-8.8	42 44	44.0 44.1	42.5 42.5	20 20	-8.5	42 44	37.9 36.9	37·7 36.3	29 31	<b>-9.</b> 0
44 46 48	74.6 74.0 75.0 75.0	12 12		46 48	53.0 53.5	52.0 52.3	06 05		46 48	45·5 47·5	44·3 46.0	18 15		46 48	36.9 36.6	36.3 35.8 36.1	31 31	
50	72.5 71.0	17 16		50	52.3	51.3	22 07		50	48.1	47.2	13		50	37.1	36.6	30	1
52 54	72.2 72.2 74.0 73.6	14		52 54 56	57·3 58·7	56.6 57.5	21 59 57		52 54	47.9	47·3 45.6	13 16		52 54 56	38.0 38.1	36.7 36.1	29 30	
56 58	78.0a 76.7 76.5	07 09		56 58	59.7 58.6	58.9 57.8	55 57		54 56 58	45.4	45.0 44.3	17 18		56 58	38.5	36.1 36.4	29 29	
3 00	78.0 77.3 76.8 76.1	08	-8.4	15 00 02.2	59·3 60.2	58.0 59.6	56 54	-8.8	17 00	44.6 44.6	44·3 43·9	18	-8.6	19 00 02	40.2 41.0	37 · 2 37 · 7	27 26	-9.0
04 <b>0</b> 6*	77.3 76.3	09		04	63.0 65.2	61.8	50 46		04 06	44.8	43.8	18		04 06	41.4	38.8	25	
o8	53.3 48.7 50.2 48.0	II		08	66.2	65.3	45		08	45.0	44.2 44.3	18		08	42.1 42.6	39·3 40.0	24 23	
10 12	47.8 46.2 52.8 49.8	07		10 12	66.8	65.8 67.1	44 43		10 12	44.0	43.0 41.3	20 22		10 12	42.8 42.9	40.2 40.6	23 23	
14 16	48.3 47.6 49.2 48.8	13	-8.3	14 16	67.3 67.3	66.0 66.6	44 43	-8.8	14 16	46.2	45.8 44.3	18	-8.7	14 16	43.3	41.9 43.1	2I 19	-9.0
18 20	49.4 48.6 51.3 50.6	08		18 20	65.6 63.3	65.0 62.6	46 49		18 20	39·3 39·7	38.5	27		18 20	45.7 46.9	44·7 45·9	17 15	
22	54.8 52.3	04		22	62.3	61.8	51		22	40.3	38.3 38.8	27 26		22	47.8	46.8	14	
24 26	50.6 47.6	11		24 26	60.3	59.9 60.3 59.8	54 53		24 26	40.0	39. I 38.6	25 26		24 26	47·4 46.9	46.7 46.7	14 14	
28 30	48.3 45.6 51.3 47.0	14 11	-8.4	28 30	60.6	59.8 60.0	54 53	-8.5	28 30	38.7 38.2	37·5 37·1	28 29	-8.8	28 30	47.1 47.9	46.2 46.3	15 14	-9.I
32	51.3 48.6 50.3 47.9	10		32	61.5 58.6	61.3 58.6	52 56		32 34	38.9	37·3 38.2	29 28 27		32	48.8	47.I 47.I	13 12	
34 36 38	49.7 46.1	13 06		34 36 38	58.0 56.2	58.0 55.6	2I 57 22 00		36 38	42.0	40.I	24		34 36 38	50.2	47. I	12	
40	51.0 49.7	09		40	55.2	55.0	02		40	43.0 43.6	41.1 41.9	22 21		40	50.9	47. I	II	
42 44	49.6 47.4 51.3 48.3	I2 I0	-8.5	42 44	52.5 52.3 51.8	52.2 $52.3$	об об	-8.5	42 44	44. I 45.2	42.9 43.8	20 18	-8.6	42 44	51.8 52.0	46.9 47.3	10	-9.2
44 46 48	45.7 44.1 49.7 46.0	18		46 48	51.8 50.3	51.3 49.7	07 10		46 48	45.9 45.8	44.3 44.0	17 18		46 48	52.8 53.0	47.7 48.1	09 09	
50	48.3 47.3	22 13		50	51.0 49.7	50.3	09 11		50	45.9	43.0	18		50	54.2	48.1	08	
52 54	59.1 54.5 59.0 53.8	2I 59 2I 60		52 54	47.3	46.3	14		52 54 56	45.3 45.8	43.2 42.4	19 19		52 54 56	53.9 53.8	50.1	07 06	
54 56 58	52.6 47.8 52.6 46.3	22 09 IO		56 58	46.6 47.6	45.6 46.4	16 14	-8.5	56 58	45.4 44.8	43.I 42.7	19 19		56 58	54.2 54.0		05 05	

Observer-W. J. P.

Observers—W. J. P. and R. R. T., who alternated from 17h 22m to 17h 32m.

	1			1	11	1		1	<u> </u>					ſ	(1			<u> </u>	i
Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sc read Left		East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Гетр. С.	Chr'r time	read	ale ings Right	East decli- nation	Tem
h m	d	d	0 /	•	h m	đ	đ	0 ,	•	h m	đ		0 ,	•	h m	d		0 ,	
0 00.1 02	54.0 54.7	52.9 52.5	22 04 04	-9.3	22 00 02	39 39.7	.0b 38.2	22 27 27	-10.2	16 00 02	42.6 42.1	42.6 42.4	22 32 31	-9.9	18 00	40.8 41.3	41.0 41.8	22 36	-9.6
04 <b>0</b> 5	53.8 53.3	52.0	05 06		04 06	47.I	44.7	16		04	41.0	41.0	31		04	41.9	42.0	37 38	
o8	53.9	51.2 51.9	05		80	48.7	46.3 45.9	13 13		об 08	40.8	40.8 40.1	20 28		об.5 o8.2	42.I 42.3	42.4 42.8	38 39	
IO I2	53·7 53·3	52.I 52.I	05 05		10 12	50.7	48.8 44.1	10		10	40.I	40.3	28		10	42.I	42.8	39 38	
14	52.9	51.9	<b>o</b> 6	-9.7	14	45.9	41.6	19	-10.3	I2 I4	40.0	40.8 40.6	29 20	-9.8	12 14	42.I 42.0	42.4 42.3	38	-9.
18 18	53.7	52.1 50.9	05 07		16	45.1 61.3	35.6 44.5	25 05		16 18	4I.0 4I.2	41.2 41.8	30 31		16 18	42.4 42.3	42.6 42.8	39 39	
20	50.0	50.2	• 09		20	53.2	44.0	12		20	41.2	41.4	31		20	42.2	42.7	39	
22 24	50.6	49.5	\$ IO		22 24	50.9 48.9	36.7 35.8	19		22 24	40.2 38.0	40.6 38.3	20 26		22 24	42.I 42.4	42.5 42.8	39 40	
26 28	51.1	49.9 40.2	09 IO		24 26 28	51.9	39.8	16		26	48.τ	48.2	32		26	42.I	43.0	40	
30	49.7	48.1	11	-9.9	30	50.9 58.1	39.7 45.2	17 07	-ro.6	28 30	38.2	ost 30.0	27	-9.8	28 30	43.5 43.0	43.8 44.0	41 42	-9.5
32 34	49.0	48.2 48.2	II		32	49.3	33.6 34.9	23 21		32	38.1 38.3	30.0 38.9	27		32	43.8	43.9	42	
36	49.9	48.2	11		34 36	50.7	36.7	10		34 36	38.0	38.2	27 27		34 36 38	43.0 42.I	43.0 42.4	41 40	
38 40	50.7	48.9 50.1	08 08		`38 40	52.3 51.1	36.9 39.6	18		38 40	37·7 37·5	37.8 37.0	26 26		38 40	42.0 42.0	42.2 42.2	40 40	
42	53-3	51.7	06		42	50.1	34.8	21	70.0	42	38.2	38.8	28		42.2	42.2	42.8	41	
44 46	54.3	52.0 51.2	05 06	-9.9	44 46 48	46.3	34.9 37.6	24 10	-10.8	44 46	39.9	40.0 41.1	30 32	-9.6	44·4 46	42.0 42.1	42.5 42.4	40 41	-9.
48 50	52.0 50.4	40.9 48.3	08		48 50	48.1	40.8 45.5	18		48	41.7	42.0	.34		48	42.2	42.6	41	
52	50.8	48.7	IO		52	54.5 37.8	27. I	37		50 52	41.0	41.I 40.2	32 31		50 52	42.T 42.0	42.8 42.2	41 41	
54 56	46.8	45.8 45.2	15 16		54 56 58	23.8 38.1	14.1 21.6	58 41		54 56	40.1	40.2 40.7	31 31		54 56	42.0 42.0	42.0 42.2	40 41	
58	47.7	46.1	14		58	37.8	23.7	40	0	58	39.9	40.T	31		58	42.0	42.3	41	
I 00 02	44.7	43.1 43.8	18	-9.9	23 00 02	27.1 48.0	12.3 32.0	57 25	-io.8	17 00 02	40.2	40.7 41.8	31	-9.3	19 00 02	41.0	42.2 42.0	41 41	-9.9
04	44.2	42 · T	20		04 06	56.9	42.6	10		04	42.I	42.7	35		04	41.2	41.8	40	
იგ იგ	43.0	41.2 43.1	22 20		08	55.9 52.0	42.7 39.0	16		ირ ი8	42.2	42.3 41.2	35 33		ირ ი8	41.2 41.5	41.9 42.0	40 41	
10 12	44.I 45.2	43.I 43.3	20 10		10 12	49.8	38. I 40. I	19 16		10	40.5	40.7	32		10	41.8	42.0	41	
14	42.9	42.0	21	10.0	14	48.1	40.1	19	-10.9	12.6 14	40.9	41.0 41.2	33 33	-9.2	I2 I4	41.8	42.0 42.0	41 42	-10.
16 18	44.I 44.I	42.4 42.I	20 20		16 18	34.4	22.0 19.3	44 48		16 18	41.5	41.0 41.8	34 34		18 14	41.8	42.0 42.I	42 42	
20	43.9	41.4	21		20	39.8	25.2	37 28		20	41.5	41.9	35		20	41.3	42.0	41	
22 24	43. I 43.3		23 23		22 24	45.0 41.1	31.6 29.2	33		22 24	41.9	42.0 42.3	35 36		22 24	42.0 42.0	42. <b>2</b> 42.I	42 42	
<b>2</b> 6	43.0	40.2	23		26 28	35·5 33·9	24.9 26.2	41		26	42.7	42.8	37		26	41.0	42.0	42	
28 30	42.4 42.4	40.2 40.2	23 23	-10.0	30	36.9	22.I	41 42	-10.9	28 30	4I.I 40.0	41.8 40.1	35 33	-9.3	28 30	41.8	41.8 41.8	42 42	-10.
32		30.0	24 25		32 34	39.0 43.9	28.0 35.0	35 26		32	39.3	39.8	32		32	41.5	41.8	42	
34 36 38		38.0	27 28	, ,	36	33.1	25.0	42		34 36	39.8 40.0	39.9 40.1	32 33		34 36	41.8	42.0 42.0	43	
38 40	39.4 39.8	37.3	28 28		38 40	32.5 36.8	25.2 29.0	43 36		.38	40.4	40.7	34		38.5	42.0	42.I 42.3	43	
42	38.9	36.5	29		42	34.1	28. I	39		40 42	40.2 40.1	40.5 40.1	34 33		40 42	42.0 42.0	42.5	43 44	
44 46		36.3 37.0	20 28	-IO.I	44 46	37·7 41.2	30.I 34.3	35 29	-11.0	44 46	40.0	40.I 40.I	33	-9.5	41 46	42.0 41.9	42.2 42.1	44	-10.
48	39.4	37.7	28		48	43.I	36.2	26		48	40.2	40.5	34 34		48	41.9	42.1	44 44	
50	39. I 39.0	37·7 37·3	28 28		50 52	44·4 35· <u>I</u>	38.3 27.3	23 39		50 52	40.9 41.2	41.I 41.5	35 36		50 52	41.7	42.I 42.0	44	1
54	42.0	40.1	24		54	30.8	24.I	45		54 56	41.4	41.8	36		54	41.5	42.0	43	
52 54 56 58	40.9 44.0	39.I 40.7	25 22		56 58	26.9 30.8	20.I 24.5	51 45		56 58	41.0	41.9 40.9	36 35		56 58	41.8	42.2 42.2	44 44	
50	· 17 . ~				24 00	32.9			-11.0	5.0		77	0,5		20 00	1 '	42.7	45	

Correction to local mean time is +3m 34s.  $90^{\circ}$  torsion = 18.96. Torsion head at oh oom read  $63^{\circ}$  and at 24h 05m read  $67^{\circ}$ . Observer—R. R. T.

Correction to local mean time is — Im 38.5s. 90° torsion = 17.74. Torsion head at 15h 40m read 67° and at 20h 21m read 346°. Observer—J. V.

Chr'r time	read	ale lings Right	East decli- nation	Temp C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.	Chr'r time	геас	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d	d	0 /	•	h m	d	d	0 ,	0	h m	d	 d	0 ,	•	h m	đ	d	0 ,	•
0 00*	39.2 39.3	38.0 37.9	22 28 28	-11.0	22 00 02	47·3 44·5	46. I 43. 7	22 I6 20	-11.2	0 00* 92	50.6	52.1 51.6	22 24 23	-11.3	2 00	52.8 55.2	53·5 55·9	22 27 31	-10.0
04	39.7	38.1	28		04	45.5	45.0	18		04	49.2	51.9	23		04	56.0	56.9	32	
06 08	40.0	38.7 38.9	27		06 08	<b>47.1</b> 44.8	<b>46.7</b> 44.0	<b>16</b>	2.8	06 08	50.3	52.I 52.2	24 24		06 08	55.0 55.3	56.8 57.0	31 32	
10	40.0	38.5	27 28		10	49.9	49.2	11	17.7	IO	50.0	51.2	23		IO	54.7	57. I	31	
12 14	39.9	38.4 38.0	28 28	-11.0	I2 I4	49.9 49.4	49.7 48.8	II I2	-II.2	12 14	49.2	50.8 51.1	22 23	-10.9	12 14	55.1 56.2	58.1 59.3	32 34	-10.0
16	39.1	38.0	29	11.0	16	49.1	48.6	12	111.2	16	49.7	51.1	23	10.9	16	57.2	60.9	36	
18 20	39.0 38.8	37.9	29 29	i	18	49.8	49.2 49.0	II I2		18	50.1	51.9 53.1	24 26		18 20	58.8 57.8	62.1	38 37	,
22	38.0	37·7 37·1	30		22	48.1	46.9	14		22	51.5	53.I	26		22	58.2	61.9	t. 38	
<b>2</b> 4 <b>2</b> 6	38.2	37.5	30 30		24 26	51.0	49.9 .7b	10		24 26	51.1	52.8 52.8	25 26		24 26.2	59.0 58.5	62.3	39 38	
28	39.0	37·5 38·1	20		28	48.2	48.1	14		28	51.1	52.3	25		28	61.8	64.1	42	
30 32	39·5 39·5	38.8 38.9	28 28	-11.0	30 32	53.I 43.8	50.8 41.1	08 22	-11.3	30 32	50.8	51.7 53.0	24 26	-io.8	30 32	62.9 62.0	65.2 64.2	44 43	-10.0
	40.I	39.5	27		34	40.2	31.0	33		34	51.6	53.3	26		34	61.1	63.1	41	
34 36 38	39.8	39.0 39.0	27		36 38	53.I 51.2	43.I 4I.2	I4 I7		36 38	52.2 52.3	54.2 54.5	27 27		36 38	61.7 62.8	63.2 64.0	42 43	
40	39·7 40·1	39.6	27 27 26		40	51.9	42.I	15		40	50.8	53.1	25		40	64.1	65.2	45	
42	40.6 39.8	39.9	26 27	-11.1	42	51.5 50.2	41.0 42.3	17 17	-11.3	42	50.2	53.I 52.7	26 24	<b>-10.</b> 6	42	64.0	65.2 63.8	45 43	-9.9
44 46	39.0	39.0 39.0	27 26		44 46	48.2	42.3 44.I	17	-11.3	44 46	50.0	52.8	24	10.0	44 46	60.6	62.9	40	9.9
48 50	40.3	39.9	26 25	ļ	48 50	41.1 48.9	34.9 41.0	29 19		48 50	50.I 50.0	52.8 52.3	24 24		48 50	59.7 60.0	61.3	39 39	
52	4I.I 4I.4	40.9 41.0	25		52	52.0	45.8	19		52	50.1	52.2	24		52	60.5	61.3	39	
54 56	41.9	41.3 41.8	24		54 56	50.8	46.0 32.9	13 22		54 56	50.1 49.7	52.3 51.9	24 23		54 56	61.6 63.0	62.6 64.1	41 43	
58	42.0 43.1	42.6	23		58	53.0	41.9	15		58	49.9	51.0	23		58	64.1	65.3	45 48	
00	43.0	42.8	22 21	-11.1	23 00 02	53.0	<b>42.2</b> 44.0	14 11	-11.4	I 00 02	48.5	49.7 49.3	2I 20	-10.4	3 00	65.9 67.1	66.9 68.2	48 50	-9.9
02 04	44.0 45.1	43.1 44.9	18		04	55.1 45.8	35.3	26		04	48.3	50.2	21		04	67.1	68.9	50	
o6 o8	45·3 47·2	45·3 46.9	18		06 08.3	41.2	33·3 40.6	3I 2I		06 08	48.9	50.8 50.8	22 22		o6 o8	64.9 65.5	66.9 68.0	47 48	
10	47.6	47.I	15		10	30.5	27.9	43 38		10	48.8	50.0	21		10	66.8	69.3	50	
I2 I4	46.1 45.2	45·9 44·9	17	-11.2	12 14	38.0 46.3	27.0 38.3	38 23	-11.5	I2 I4	49.8	51.6	23 26	-10.3	12 14	68.1 69.2	70.9 72.0	53 54	-9.8
16	45.2	45.0	18	12.2	16	45.0	35.9	22 26	5	16	50.9	53.1	25		16	. 70.0	72.9	54 56 56	
18 20	44.8	44·3 43·2	19 21		18*	57·3 68.0	56.0 51.0	23 02 22 57		18 20	49.3	51.0	23 22		18 20	70.1 70.8	73.I 73.3	50 57	
22	43.2	43.I	21		22*	49.1	44.8	II		22	48.3	50.2	21		22	71.1	73.5	57	
24 26	43.2 43.9	43.1 43.3	2I 2I		24 26	47·7 25.0	37.8 18.8	17 50		24 26	48.1	50.8	2I 20		24 26	72.0 73.1	74.0 75.0	58 22 60	
28	44.0	43-7	20		28	22.I	14.0	56		28	47.6	49.5	20		28	73.6	75.1	23 00	
30 32	44.0	43·9 44·4	20 19	-II.2	30 32	41.0 47.0	31.2 41.3	28 15	-11.5	30 32	47.0 47.1	49.0 49.0	19 19	-IO.2	30 32	74.2 75.0	75.8 76.1	0I 02	-9.8
34	45.1	44.5	19		34	41.0	34.3	25		34 36	47.2	48.3	18		34 36	75.3 76.1	77.2	03	
36 38	44.2	43·5 44·2	20 19	Ì	36 38	37·7 34·3	32.0 29.8	30 34		38	47·5 49·0	48.0	18 21		38 38	76.5	78.2 79.0	05 06	
40	44.2	44.0	20		40	31.3	26.9	39		40 42	49.6 50.8	49.9	22		40	<i>7</i> 6.3	78.4	05	
42 44	43.I 4I.2	42.0 40.2	22 25	-11.2	42 44	32.6 35.9	27.2 29.2	37 33	-116	44 46	50.I	50.9 50.8	23 23	-IO.I	42* 44	47·4 49.1	50.5 50.8	05 06	-9.7
46	41.8	40.2	25		46	37.0	31.5	31		46 48	48.1	49.2	20		44 46	49. I	50.3	06	
48 <b>50</b>	42.9	41.1 42.0	23 22		48 50	32.0 37.0		37 29		50	47.9 48.1	49.6 49.4	20 20		48 50	49.9 53.9	50.7 53.9	07 12	
52	42.2	42.0	23		52	26.7	<i>2</i> 6.0	43		52	48.3	49.2	20		52	54.I	54.9	14	
54 56	43.I 42.2	42.2 41.9	22		<b>54</b> 56	21. <b>7</b> 17.9	15.1 15.3	55 58		54 56	48.8	49.1 49.8	20 21		52 54 56	55.2 54.8	56.9 56.2	16 15	
58		44.2	19		58 24 00	27.1	20.2 28.0	47	-11.6	58		51.1	24		58	54.5	56.1	15	

Correction to local mean time is - Im 02.5s.

Torsion head at 19h 33m read 66° and at 24h 23m read 67°.

Observer-J. V.

					1 1									1	1	1			1
Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scaread	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Tem C.
ı m	ď	ď	0 ,	•	h m	d	d	0 ,	•	h m	d	d	0 ,	•	h m	d	d	0 /	0
00	51.7 50.0	49.8 48.7	23 16 18		6 00	51.6 52.1	50.7 50.2	23 I5 I5	-8.1	8 00.4	54.9 54.1	56.2 56.8	22 56 56	-6.8	IO 00 02	47.0	49·4 50.0	22 44 45	-5.0
04 06	49·4 49·7	47.0 47.1	20 10		04 06	48.4	47.2 47.2	20 20		04 06	52.2 49.1	56.3 54.2	54 50		04 06	47·3 47·1	49.9 49.7	45 45	
80	49.0	45.0	21		08	48.9	48.2	19		08	48.3	53.7	49		08	47.9	50.3	46 46	
10 12	50.8 50.5	47.8 47.8	18 18		10 12	50.4 49.5	49.6 49.2	17		I0 I2	49.0 51.7	53·3 55·8	49 53		10 12	47.6 49.0	50.3 51.1	47	
14 16	47.9 45.4	46.1 43.1	22 26	-9.3	14 16	48.4 50.1	47.9 49.4	20 17	-8.o	14 16	52.7 53.7	56.3 56.9	54 56	-6.7	14 16	47.9 46.6	50.2 48.9	46	-5.
18 20	46.7 48.8	44.7	24 20		18 20	51.0 50.9	50.I	16 16		18	53.2	56.1	54		18 20	47.2 47.9	49.9	45 45	
22	49.5	47.2 48.2	19		22	50.3	49.3 49.1	17		20 22	50.6 49.2	53·4 52.2	50 48		22	47.3	49.2	44	
24 26	49.3 46.8	47.8 44.9	19 23		24 26	49.3 48.0	48.1 46.7	19 21		24 26	50.2 51.6		50 52		24 26	47.1 47.8	48.9 49.3	44 45	
28 30	43.2 40.1	40.8 37.8	<b>2</b> 9 34	-9.3	28 30	48.2	47.2 43.6	20 26	-7.8	28 30	51.1 51.9	53·3 53·8	51 52	-6.4	28 30	47.8 47.0	49.4 48.4	45 44	-4.
32	37.9	35.9	37	9.3	32	44.5	42.4	27 26	,	32	51.2	53.7	51	3.4	32	48.7	49.8 48.7	44 46	
34 36 38	37.0 40.2	34.8 38.5	39 34		34 36 38	44.7 45.1	43.7 43.8	26		34 36 38	52.2 51.7	53.7	52 52		34 36 38	47·7 45·7	47.I	44 42	
38 40	37.1 38.9	36.1 37.2	34 38 36		38 40	44·3 50.3	43.0 48.9	27 18		38 40	52.9 52.3	54.6 54.2	53 52		38 40	45.0 46.6	46.1 47.3	40 42	
42	37·9 38·4	37.0	37 36	-9.2	42	46.1 47.1	45.0 46.2	24 22	-7.7	42	52.3 50.6	53.9	52 49	-6. т	42	47.0 48.3	47·7 49.0	43 45	-4.
44 46 48	36.6	37.I 35.I	39	79.2	44 46 48	52.0	51.2	14	7.7	44 46	49.8	52.0		-0.1	44 46	46.0	48.4	44	1
50	33·5 34.8	32.2 33.2	44 42 36		50	54.0 52.3	53.2 51.1	11		48 50	48.9 49.3	51.8	49 48 48 48		48 50	44.8	46.1 45.0	40 38 38 46	·
52	37.8	37.2 40.3	36 31		52 54	52.I 48.9	51.3 47.8	I4 I9		52	49.8 47.3		48 45	,	52 54	43.0	44.9 49.9	38 46	
54 56	42.3	41.3	30		54 56 58	50.8	50.0	16 19		54 56 58	44.8	46.6	40		54 56 58	44.2	45.8 45.7	39 39	
58	38.7 35.0	38.2 35.0	35 40	-9.I	7 00	48.9 50.1	47.9 49.0	18	-7.3	9 00	46.0 52.1	53.1	42 51	-6.0	11 00	44.2	46.0	40	-4.
02 04	32.3 32.0	32.0 31.5	45 46		02 04	50.9	49.7 47.1	16 21		02 04	55.I 54.I		57 55 46		02 04	44.1 44.0	47.I 47.0	40 40	
o6 o8	34.8 37.8	34.I 37.4	41 36 36		o6 o8	51.1 52,2	50.1 51.8	16 14		06 08	49.0 47.1		46 44		06 08	44.3	47. <b>0</b> 46.3	40 40	
IO	38.0	37-7	36		10	51.9	51.9	14		10	50.1	52.0	49		10 12	44.2 44.6	46.7 46.9	40 40	
12 14	37·3 35.6	37.0 34.6	37 40	-9.0	12 14	55.3 53.8	55.1 53.2	09	-7.2	12 14	51.6 51.0	52.1	50 50	-5.9	14	43.8	46.2	39	-4
16 18	32.4 31.2	31.3 30.1	45 47		16 18	56.1	55·7 52.9	08		18	48.3		45 45		16 18	44.2 44.1	46.7 46.4	40	
20	28.9	27.9	51		20 22	54.3	54.0 57.6	10 04		20 22	48.6 48.3	49.4	45 46 45		20 22	44.2 44.1		40 40	
22 24	27.2 32.0	26.6 30.6	53 46		24 26	58.3 57.8	57.3	05		24 26	49.1 49.8	50. I	47		24	44.0	46.2	40	,
26 28	35·3 37·0	34.6 35.7	40 38		20 28	57.0 59.1	56.2 58.7	06 03		26 28	40.I	49.9	47 46		26 28	42.8 43.2	45.6	38 38 38 38 38 38 38	
30	37.8	37.0	37 39	-8.9	30 32	60.8 50.9	59.9 59.2	01 02	-7.0	30 32	48.8 49.1	50. I 50. 0	46	-5.7	30 32	43·3 43·0		38	-4
32 34	36.3 38.2	35·3 37·7	36		34 36	58.2	57.I	05		34	49.5	50.9	46 48		34 36	43.1	45.0	38	3
34 36 38	40.3	39.9 39.9	32		38	60.0	59.3 60.9	23 02 22 59		36 38	48.3	52.0	48		38	43.2	44.8	38	<b>§</b>
40 42	42.1	41.1 36.2	30 38		40 42	63.2 64.1	63.0 63.7	55		40 42	51.0 48.9				40 42	43.3		37	7
44	37 · I 34 · 5	34.I	41	-8.6	44 46	66.9	.65.I	52 40	-6.8	44	48.0 47.2	50.1	46	-5.3	44 46	43.0 43.1	43.9	37	7   -4
44 46 48	37·7 43·9	37.2 42.3	37 28		48	77.0	73.2 76.8	35		44 46 48	47.9	49.6	45		48	43.1	43.9	37	7
50	47.4	46.6	22 33		50 52	72 50	.5b .6b	22 42 23 02		50 52	48.5 48.1	50.7	46 46		50 52	42.7			7
52.2 54	48.9	39·4 47·8	19		54	48	.8b	19		50 52 54 56 58	48. I 48. I	50.8	46		54 56 58	42.7 42.1	43.1	36	5
54 56 58	50.8 50.5	49.8 49.1	16 17		56 58 8 00	61.0	.3 <i>a</i> 60.1 61.7	23 00 22 57	-6.3	58	47.6	50.7 49.9			58 12 00	42.2	43.3	36	5 5 -4

Correction to local mean time is + 23s. 90° torsion = 17.'58. Torsion head at oh oom read 67° and at 8h 15m read 62°. Observer—R. R. T.

Correction to local mean time is +4s. Torsion head at 7h 30m read 62° and at 12h 15m read the same. Observer—R. R. T.

Tueso	iay, May 10	, 1904			Ma	ignet s	cale inv	erted	Wedi	nesday,	, Мау	11, 1904				Magn	et scale	erect
Chr'r time	Scale readings Left Righ	East decli- nation		Chr'r time	Scaread	ings	East decli- nation	Temp.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
h m	d d	0 ,	0	h m	d	d	0 ,	0	h m	d	đ	. ,	6	h m	d	đ	. ,	•
2 00	54.7 52. 55.9 55.			14 00 02	67.2 67.0	66.7 66.2	22 I6 I6	-2.8	0 00*	50.2 50.1	51.0 50.9	22 38 38	-4.5	2 00	55.1 56.1	55.8 56.6	22 46 47 48	-5.0
o6	58.6 57. 57.9 56.	4 30		04 06	67.0 67.8	66.2 67.1	15 15		04 06	50.0 49.8	50.5	38 38 38		04 06	56.8 58.1	57.1 58.3	48 50	
o8	55.4 54.	35		o8	66.7	55.9	17		о8	49.7	50.2	37		08	58.7 58.9	59.0 59.1	51 52	
10 10	56.6 55. 56.8 55.	2 33 1 33		10 I2	66.1	66.1 65.2	17		10 12	49.8	50.2	38		12	59.9	60.1	53	
14 16	55.3 53. 53.2 52.		-3.9	14 16	69.9	69.0 69.1	I2 I2	-2.6	14 16	50.2	50.8 50.8	37 38 38 38 38	-4.4	14 16	60.2	60.5 60.3	54 53	-5.0
18	54.1 53.	0 37		18	70.0	69.2 70.3	12 10		18 20	51.0	51.2 51.2	39 39		18 20	60.5 59.3	бо.8 бо.о	54 53	
20 22	55.0 53. 55.0 53.	1 36		20 22	72.0	72.0	08		22	51.1	51.5	40		22	60.7	61.0 61.2	54	
24 26	54.9 53. 54.7 53.			24 26	71.2 70.9	71.0 70.3	09 10		24 <b>2</b> 6	50.9 51.6	51.2 52.0	39 40		24 26	60.3	61.0	55 54	
28 30	55.6 54. 56.7 55.	0 35		28 30	72.0 73.7	71.0 73.1	08 06	-2.3	28 30	52.0 52.0	52.6 52.6	4I 4I	-4.6	28 30	60.0	60.2 61.0	53 54	-5.1
32	56.4 55.	2 33		32.1	73.7	73.I	06 07		32	52.2	52.8	41	,	32	60.8	61.2 61.1	55 55 56 55 57 58 58 58 59 59 55 55 56	
34 36	56.1 55. 56.8 55.	9 32		34 36 38	72.9 70.7	72.5 69.9	10		34 36	52.0	52.3 53.1	42		34 36	61.4	62.0	56 56	
38 40	58.0 57. 58.3 57.			38 40	72.0 72.1	71.0 71.0	08 08		38 40	53.0	53·2 53·4	42 42		38 40	62.8 62.3	63.1 62.9	50 57	
42 44	58.5 58. 59.2 58.	0 29		42	73.I 74.9	72.7 73.5	06	-2.1	42 44	53.0 52.9	53·7 53·5	43 42	-4.8	42 44	62.4		58 58	-5.I
46	59.1 58.	0 29		44 46 48	74.8	73.3	05		ll 46	53.2	53.9	43	1	46 <b>48</b>	63.0 63.1	63.1	58 r8	
48 50	58.7 57. 59.3 58.			50	76.2 77.3	74.8 76.0	02 01		48 50	54.7 55.0	55.0 55.7	45 46		50	63.0	63.1	58	
52 54	59.4 58. 59.6 58.	3   28 7   28		52 54	77.9	76.4 76.0	22 00		52 54	55.0 55.1	55·7 55·3	46 46		52 54	63.1	63.3 63.8	59	**
54 56 58	59.3 58. 60.2 59.	2 29		54 56 58	78.5 76.8	77 · 4 75 · 9	21 58 22 01		54 56 58	54.8 54.8	55.0	45 45		56 58	63.5	63.7 63.1	59 58	
00 5,1	60.7 60.	2   26		15 00	74.0	73.I	05	-2.0	1 00	54.0	54.2	44	-4.9	3 00	62.3 61.7		57	-5.1
02 04	60.1 59. 60.9 60.	0 26		92 94 96	74.0 75.8	73.1 73.2	05 04		02 04	`53.9 53.1	53·9 53·5	44 43		04	61.0	61.1	55 55	
<u>ი</u> გ	61.7 61.			08	76.3 78.0	75.0 73.0	02		06 08	52.9 52.7	53.2 53.0	42 42		o6 o8	59.9	61.0 60.1	55	
10 12	61.5 60. 60.3 59.	9 25		10 12	78.1 75.3	76.4 75.0	00		10 12	52.5 52.8	53.0	42 42		I0 I2	59.3 58.3	59.7 58.9	53 52 51	
14	63.1 62.	3 22	-3.2	14	73.1	72.2	07 08	-1.9	14	52.8	53.1	42	-g.o	14 16	58.1	58.8	51 52	-5.1
16 18	63.6 63.			16	72.0	71.0	09		16 18	52.0 51.7	53.0 52.2	41 40		18	59.0	59.2	52	
20 22	62.0 61.			20 22	68.8	70.0 68.3	11		20 22	50.0	51.8 51.4	40 39		20 22	59.8 60.4	60.7	53 54	
24	65.2 64.	8 19		24 26	67.8 66.8	67.8	14 16		24 26	51.1		40 42		24 26	58.0	60.5 58.2	54 50	
<i>2</i> 6 28	62.8 62.	I 23	;	28	65.9	65.3	18	-r.8	28	52.7	52.2	41		28	57.9	58.0	50 50	
30 32.2	62.0 61. 64.6 63.	5 24 8 20		30 32	65.9 63.3 63.8	63.2 63.6	22 2I	-1.6	30 32	52.2 52.8	52.8 53.0	42	-5.0	30 32	57·9 57·9	57.9 58.3	50	1
34 36 38	64.9 63. 64.6 64.	6 21		34 36	64.0	64.2	20 20		34 36 38	52.5 52.2	52.8 52.8	42 41		34 36 38	58.0	58.3 58.9 59.8	51 52	·
38	64.7 64.	1 20	•	38 40.2	63.8	63.2	2I 22		38	52.2 52.2	52.8	4I 4I		38 40	50.2	60.1 50.6	53 52	
40 42	64.3 63.	5 21		42	63.0	62.8	22	. 7 7	40 42	52.5	52.9	42		42	58.8	60.1 59.6 59.2 58.8	53 52 52 51 50 51	-4.8
44 46 48	66.8 65. 64.8 63.	9 20		44 46	63.1	63.6 62.7	21 22	-1.7	44 46 48	52.9 51.9	52.1	42 41	-5.0	44 46	1 57.8	58.1	50	, -4.6
48 50	63.0 62. 64.8 63.	o   23		48 50	63.1	62.8 62.4	22 22		48 50	52.0 52.1		41 41		48 50	58.2	59.0 60.0	53	
52	66.1 64.	5 18	3	52	63.0 62.2	62.3	22 23		52	53.0	53.2	42 42		52	60.5	60.0 60.8 61.6	54 55 55	
50 52 54 56 58	64.5 63. 65.2 64	0 19	)	48 50 52 54 56 58	62.8	62.2	23		50 52 54 56 58	53.0 53.8	53.9	44 46		54 56 58	61.1	61.4	55	
58	67.0 66.	ο τ6	·	16 oo	62.7	62.1 61.5	23 23	-1.5	58	55.1	55.2	40		58	00.8	60.9	54	

Correction to local mean time is — 31.5s. 90° torsion = 16.'99. Torsion head at 1h 35m read 74° and at 16h 15m read 67°. Observer—R. R. T.

Observer-J. V.

# MAGNETIC OBSERVATIONS

# Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Chr'r time	read	•	East decli- nation	Temp. C.	Chr'r time	Sca read		East decli- nation	Temp. C.	Chr'r	Sca read		East decli- nation	Temp. C.	Chr'r time	Sca readi	ngs	East decli- nation	Tem; C.
and the second	Left	Right				Left	Right				Left	Right				Left	Right		
h m	d	d	0 ,	•	h m	d	d	0 ,	0	h m	d	đ	0 /	•	h m	d	d	0 /	۰
1 00 02	61.1 62.2	61.2	22 55 57	-4.4	6 00	32.I 32.5	33.0 33.6	23 03 04	-4.7	8 00	22.7	23.5 22.2	22 48 46	-2.9	10 00	16.6	17.0	22 39 41	-2.5
04	63.1	63.8	58		04	34.6	35.7	07		04	22.0	22.3	47		04	17.4	17.6	40	
o6 o8	63.3	63.8 65.1	22 59 23 OI		06 08	33·3 33.0	34.8 34.0	06		06 08	22.8	23.0 22.5	48 47		06 08	14.4	14.0 12.0	35 31	
10	65.9	66.0	02		10	30.3	31.0	23 00		10	22.8	22.8	48		10	13.3	13.4	33	
12	64.2	64.8 62.0	23 00 22 56	-4.2	12 14	27.9	29.0 30.9	22 57 60	-4.8	12 14	22.2	22.2 23.0	47 48	-2.5	12 14	16.3	16.4 16.3	38 37	-2.
16 14	61.9	62.0	56	4.2	16	27.8	29.0	57	4.5	16	23.4	23.6	49	5	16	16.7	18.0	39	
18	63.3	64.0 63.9	59 59		18 20	27.4 28.3	28.3 29.2	56		18 20	23.I 22.0	23.6	49 47		18 20	18.0 17.6	18.6 18.8	<b>4</b> I 4I	
20 22	63.3	62.8	57		22	28.4	29.2	57	] '	22	21.2	21.2	46		22	17.3	18.7	40	
24 26	61.8	62.0 63.2	22 58		24 26	27.3	28.5 27.2	56 54		24 26	21.8	22.2 22.6	47 47		24 26	17.9	19.0 <b>19.6</b>	41 42	
28.3	63.0	67.8	23 05		28	27.0	27.9	55		28	22.3	22.6	47		28	19.5	20.6	44	
30	68.9	70.0 69.1	09 07	-4.I	30 32	28.3 26.3	29.0 27.I	57 <b>54</b>	-4.8	30 32	22.6	23.0 23.6	48	-2.0	30 32	18.8	19.8 19.7	42 42	-3.
32 34	69.6	69.9	08		34	26.1	27.0	54		34	22.3	23.3	49 48		34	18.6	19.6	42	
34 36	64.6	64.8	10		34 36 38	25.5 26.8	26.1 27.2	53 55		36 38	22.3	23.5 23.6	48 48		36 38	18.5	20.0 19.6	42 42	
38 40	76.2	.0a 76.8	19		40	28.0	28.8	57		40	21.0	22.8	47		40	19.0	20.4	43	
42	68.9	70.0 66.1	08	-4.I	42	27.8	28.1 27.0	56 54	-4.7	42 44	20.6	22.6 22.6	46 47		42 44	18.8	20.Ú 19.4	43 42	-3
44 46 48	65.7 70.1	71.0	10	-4.1	44 46 48	26.2	26.8	54	4.7	45 48	20.5	21.8	45	-2.0	46	16.5	18.1	39 38 38	
48	71.4	72. I	12		48 50	26.0 24.8	26.3 25.0	53 51		48   50	18.8	20.4 20.6	43 44		48	15.3	17.3 17.4	38	
50 52*	74.0	75·4 48. i	24		52	24.1	24.2	50		52	20.0	20.9	44		52	13.8	15.6	35 35	
54 56	47.6		30 36		54 56	25.0 25.8	25.3 26.3	52 53		54 56	19.3	20.0 21.0			54 56	13.6	15.6 14.5	34	
50 58	51.0 48.9	52.2	32		58	25.3	<i>2</i> 6.0	52		58	23.0	23.8	49		58	11.8	13.8	32 31	
5 00	43.8	47.6	24 18	-4.I	7 00 02	24.2 25.6	25.0 26.0	51	-4.2	9 00	18.5	22.0 18.8		-2.0	11 00 02	11.0	13.0	32	
02 04	39.8	43·4 38.0	10		04	25.0	25.3	52		04	23	.3a	22 49		04 06	11.7	12.3 12.8	31 32	
06	32.0	34.0	04		06	24.9	25.I 26.5	51		06 08	32.0				08	12.6	13.1	32	
08 10	29.2 28.8	31.7 30.4	23 00 22 59		10	24.4	25.3	51		01	14.2	15.8	36		IO I2	13.5	14.5 13.0	34 32	
12	30.1	32.2	23 OI 02	-4.2	12 14	25.0		52 51	-3.8	12 14	12.8	-			14	13.3	14.0	34	-3
14 16	30.9	32.9 35.8	07	-4.2	16	24.8	25.2	51		16	24.9		52		16	I4.0	I4.2 I4.3	34 34	
18	32.0	33 - 3	03		18 20	24.9 24.8	25.5 25.1	52 51		18	16.7				20	12.1	12.7	32	:
20 22	31.2	33.0 35.0	03		22	23.9	24.5	50		22	12.1	13.2	32		22 24	11.1	12.1	30	
24	30.0	31.8	01		24 26	22.9	23.8	49 49	-	24 26	22.0		1 0		26	14.6	15.3	36	
26 28	32.0 34.5	33.8 36.5	04		28	22.9	23.7	49		28	26.2	27.0	54		28	14.6	15.0	36	
30	34.8		08	-4.3	30	23.6	24.0 25.0		-3.5	30 32	22.8 33.0	24.4 33.7	22 49 23 04		30	11.9	12.1	31	
32 34	40.0	42.7 44.9	17 21	34	32 34	23.2	23.8	49		1 34	34.0	31.6	01		34 36	11.6		31	
34 36 38	42.9	44.9	21	444	36 38	23.2	23.9 23.2	49 48		36 38	30.3 26.1				38	11.7	12.3	31	:
38 40	42.9	45.0 42.0	21 17		40	23.4		49		40	19.1	19.7	43		40	13.3	14.0	34 34	
42	40.2	42.2	17		42	23.2		49	-3.2	42	26.0	1.9a 26.0	47 53	·2.I	42 44	12.8	14.1	33 32	-3
44 46 48	37.6 34.8	38.9 36.2	08	-4.5	44 46 48	22.9	23.3	48	3,2	44 46 48	25.7	26. I	53		<b>46</b> 48	12.3 11.8		31	2
48	34.5 34.1	36.0	07		48	22.9	23.1	48		48	18.8	21.6 19.3			50	10.6	8.11	30	
50	34.2	35.8	07		50 52	23.1	23.8 23.1	48		52	19.8	20.2	44		52	11.8	12.2	31	T
50 52 54 56 58	33.1	34.8 36.0	05		52 54 56 58	23.9	24.5	50		54 56	19.6				54 56	11.6		31	
56	33.3	35.1	06 05		50	24.3	25.0 24.I			58	16.4	16.6	38		58		11.8	30	

Observer-J. V.

Observers—J. V. and W. J. P., who alternated from 8h oom to 8h 10m.

Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	Scaread	•	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr's time	read	ale lings Right	East decli- nation	Ten C.
h m	d	d	0 /	0	h m	d	d	۰,	0	h m	d	d	· ,	•	h m	d	d	0 ,	
00	11.3	11.5 11.0	22 30 29	-3.5	14 00 02	<b>30.3</b> 31.6	31.6 32.6	22 IO I2	-3.3	16 00 02	26.4 26.9	27.6 27.9	22 04 04	-3.8	18 00	29.9	31.3 31.1	22 IQ 09	-3.
04	9.7	10.3	28		04	31.3	31.6	11		04	25.6	26.4	02		04	30.8	32.0	11	
06 08	9.3	9.9	27 28		06 08	31.4	32.0 38.2	11 21		06 08	25.3 25.6	26.6 26.6	02		06	30.1	31.2 32.2	10 11	
10	9.3	10.3	28		10	31.3	32.0	11		10	24. I	25.0	22 00		10	31.9	32.8	12	
12 14	8.5	8.8 9.7	26 26	-3.5	I2 I4	32.6	32.8 33.7	13 14	-3.3	12 14	23.0 23.6	23.9 24.5	2I 58 2I 59	_2 0	I2 I4	32.0	32.9 32.8	I2 I2	-3.0
16	8.5	9.0	26	-3.3	16	34.0	34.6	15	3.3	16	24.3 26.8	24.7	22 00	-3.9	16	32.0	32.9	12	-3.0
18 20	8.8 9.6	9.8 10.6	27 28		18 20	34.7 33.8	34.9 34.0	16 15		18 20	26.8 28.0	27.3 28.6	04 06		18 20	32.1	32.9 32.3	I2 I2	
22	8.8	10.0	27		22	33.3	34.0	14		22	27.6	28.0	05		22	31.1	31.8	11	
24 26	7.8 7.5	8.8 8.2	25 24		24 26	33.3	33.7 33.6	14 14		24 26	26.6 26.6	27.3	04		24 26	31.2	31.7	II	-
28	7.6	8.3	25 26		28	33.0	34.0	14		28	20.0	27.5 29.6	04		28	31.0	31.2 31.1	10	
30 32	8.1	9.3 IO.2	26 27	-3.5	30	33.0	34.0	14 16	-3.5	30	27.1	28.1	05	-3.9	30	30.4	31.0	10	-3.9
35 36	9.3 8.6	9.6	26		32 34	34.5 34.6	35·5 35·3	16		32 34	24.I 23.6	24.8 24.0	22 00 21 59		32 34	30.0	30.0 29.4	09 08	1
36 38	8.7	9.5	26 27		36 38	32.8	33.6	I4 I2		34 36 38	23.0	23.9	58 58		34 36 38	28.9		07	
40	9.0 8.6	10.0 9.6	26		40	32.0	32.6	09		40	22.8	23.2 24.3	59		40	28.6	29.0 28.1	07 05	
42	6.6	7.6 46.8	23		42	28.3	29.0	<b>o</b> 6		42	23.8	24.2	59		42	26.9	27.3	04	
44* 46 48	40.6 35.0	38.8	30 19	-3.3	44 46	28.4	28.7 27.6	05	-3.5	44 46 48	22.6	23.0 21.0	57 54	-3.9	44 46	26.9 27.7	27.2 28.0	04 05	
48	36.8	39.7	22		48	27.6	28.6	05 06		48	18.7	19.6	52		48	28.0	28.6	<b>0</b> 6	
50 52	37·7 34·3	40.3 37.3	, 23 18		50 52	28.5	29.0 30.1	08		50 52	19.6 20.6	20.3	53 54	!	50 52	27.9	28.3 28.1	06 05	
54 56	33.0	35.8	16 16		54 56	27.3	28.1	05 08		54 56 58	20.6	20.8	54		54 56 58	28.0	28.3	06 06	
58 58	33.8	35.6 35.6	16		58	28.3	30.6	11		50 58	20.8	21.I 21.7	54 56		58	27.9 26.6	28.4 26.9	03	
00	32.6	34.6	14	-3.3	15 00	30.3	34.7	14	-3.6	17 00	22.5	22.7	57	-3.8	19 00	26.7	27.0	04	-4.
02 04	32.5	34.2 34.0	14		02 04	34.6 33.6	36.6 35.6	17		02 04	22.9 22.9	23.I 23.5	21 58		02	27.2	27.9 30.0	05 08	
<b>o</b> 5	33.8	34.8	15		06	33.6	35.3	16		06	24.3	24.3	22 00		06	30.8	31.0	10	
08 10	35·3 36.0	36.3 37.0	18 19		08	33.3	35.0 33.8	15		08 10	26.0 27.0	27.0 27.6	03		08 IO	31.2	31.8 32.2	II I2	
12	35.6	36.4	18		12	29.7	31.7	10		12	26.0	26.8	03		12	31.6	32.2	12	١.
14 16	34.8 35.3	35.6 36.3	17 18	-3.4	14 16	29.9 28.4	31.0	09	-3.6	14 16	27.8	28.6 28.6	06 06	-3.8	14	32.1	33.0 33.9	I2 I3	-4.
18	34.0	34.8	16		18	28.9	30.6	80		18	25.7	26.9	03		18	32.2	33.7	13	
20 22	32.3	33·3 33.0	13		20 22	30.0	32.0 31.6	IO IO		20 22	25.5 26.2	26.5 27.2	02		20 22	32.3 31.8	33·4 32.8	I3 I2	
24	31.2	32.0	II		24	29.3	31.0	09		24	27.5	28.5	05		24	31.0		11	
20 28	31.0	31.8	11		26 28	30.4	31.6 33·3	10		20 28	30.2	30.8	10		20 28	30.2		10	
30	32.0	32.6	12	-3.5	30	32.6	34.0	14 16	-3.6	30	30. I	31.3	10	-3.7	30	30.8	31.8	11	-4
32	33.8	34.0 34.8	15 16		32 34	34.0	35·3 35·9			32 34	28.8 28.8	29.8 29.8	08 08		32	31.2 32.0		11 12	
36	36.8	37.0	19		36	33.7	35.1	17 16		34 36	28.1	28.9	06		34 36	32.1	33.0	12	
34 36 38 40		36.3 34.0	18		38 40	31.0 27.3	32.6 29.0	12 06	İ	38 40	28.2	29.2 30.4	06 08		38 40	31.1		II	
42	L	ost	-3		42	25.6	26.3	02		42	30.1	30.9	09		42	32.0		12	
44 46 48	33.I 32.3	33.6 35.6	14 15	-3.5	44 46	25.6 25.4		03	-3.7	44 46 48	29.I 30.I	30.I 31.7	08 10	-3.6	44	33.0 33.2		14 15	-4
48	31.7	32.2	12		48	27.3	28.7	05		48	30.3	31.9	10		46 48	33.2		15	
50	32.2 31.6	32.8	12 12		50 52	26.8 26.9	27.6 28.3	04 05		50 52.4	31.9 32.7	33.0	12		50	33.1	34.0	14 16	
52 54 56 58	30.6	32.4 31.6	IO		54	26.5	27.5	04		54.4 54	32.7	33.8 33.8	14		50 52 54 56 58	34.I 35.5	36.4	18	
56	30.6	31.6 30.8	10		56 <b>58</b>	26.3 26.0		04 <b>04</b>		54 56 58	31.3 30.5	32.7 32.0	12 11		56	36.1 36.0	37.0	19 19	

				,				1	,										1
Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scaread	ings	East decli- nation	Temp C.	Jhr'r time	reac	ale lings Right	East decli- nation	Гетр. С.	Chr'r time	read	ale ings Right	East decli- nation	Tem; C.
h m	d		0 ,	0	h m	d	d	0 ,	•	h m	d	d d	0 ,	0	h m	d	d	0 /	0
0 00	36.7 37.8	37·4 38.1	22 20 2I	-4.7	22 00 02	38.3 40.9	38.9 41.4	22 22 26	-5.2	16 00*	43.0	35.1	21 17	-3.3	18 00	19.8	17.9 21.3	21 48	-4.7
04	38.2	38.9	22		04	37.2	38.0	20		02 04	46.9 48.5	39.8 38.7	10		02 04	30.2	29. Ī	44 32	
06 08	39.1	40. I 39. 9	24 23		06 08	37.4	37.8 38.3	20 21		06 08	48.1 46.1	39.0 37.0	10 13		06	35·4 33·9	33·7 30·9	24 27	
IO I2	38.3	39. I 38. I	22		10	38.0	38.2	21		10	45.0	36.4	14		10	24.1	22.0	42	
14	37.5 36.9	37.4	2I 20	-4.8	12 14	36.3 35.1	36.6 35.7	19	-5.3	I2 I4	42.0 39.8	35.0 33.7	17 20	-3.5	I2 I4	20.9 16.9	18.6 14.8	47 53	-4.2
16 18	36.3 36.2	37.I 37.I	19 19		16 18	37.8 37.2	38.3 37.9	2I 20		16	39.8	33.2	21		16	19.1	17.1	49 56	
20	36.0	37.0	19		20	36.0	36.6	18		18 20	38.1	32.5 $31.2$	22 25		18 20	15.5	12.2 15.1	51	
22 24	36.4 35.8	37.1 36.7	19 18		22 24	35.9 36.1	36.4 36.9	18		22	36.9	33.2	23 20		22	18.0	13.3 12.6	54 21 56	
26	36.5	37.1	19		26	35.8	36.3	18		24 26	39.0 37.3	34·9 34·7	21		24 26*	50.0	43.2	22 06	
28 30	37·5 36.9	38.1 37.9	2I 20	-4.9	28 30	34.5	35.0 34.9	16 16	-5.4	28 30	35.8	32.I 32.0	25 25		28 30	59.2 71.6	40.8	22 00 21 42	-4.8
32	35.7	36.9 36.5	18 18		32	34.0 34.1	34·5 34·5	15 15		32	35.8	31.0	26	. 0	32*	43.9	29.8	25	
34 <b>3</b> 6	35.3	36.6	18		34.2 36	34.0	34.0	15		34 36 38	34.8	31.1 31.2	26 27	-3.8	34 36	39.8 26.4	15.0 16.8	40 49	
38 40	35·3 35·9	36.4 37.0	18		38 40	34.0	34.2 33.0	15		38 40	37.0 37.6	33.7	22 2I		38 41	31.0	20.2 22.3	42 41	
42	36.8	37.7	20		42	33.0	33.4	14		42	38.1	35.0 36.1	20		42	27.2	18.8	46	
44 46 48	38. I 37.3	38.9 38.1	22 21	-4.9	44 46 48	33.I 33.9	33·7 34·0	14	-5.7	44 46 48	41.0	38.0 39.1	16 13	-3.9	44 46 48	30.9	22.7 26.2	40 35	-4.
48	38.0	38.8	22		48	34.1	34.6	15 15		48	43.0	38.9	14		48	35.2	21.3	35 38	
50 52	37.I 37.0	37.9 37.8	20 20		50 52	33.9	34·3 34·7	15		50 52	41.1	37.2 36.2	16 18		50 52	32.0 31.0	23.0	39 40	
54 56 58	36.3 37.1	37.1 37.8	19 20		54 56	34.2	35.1 34.3	16 15		54 56	39.0	зб <b>.о</b>	. 19 . 22		54 56	33.2 29.9	24.9	37 43	
58	37.1	37.8	20		58	33.I	33.9	14	_ 0	58	37.2	34.2 $32.5$	24		58	29.2	20.8	43 38	١,
02	38.0 38.1	38.8 30.1	22 22	-5.0	23 00 02	33.I 32.2	34.0 33.1	14	-5.8	17 00 02	35·7 34.8	29.7 30.2	27 27	-4.0	19 00	33.0 32.1	23.5 21.7	38 40	-4.8
04	37.8	39.1 38.8	22		04 06	32.1	33.0	I2 I2		04	31.8	27.2	32 28		04	31.9	20.8	41	
o6 o8	37·3 37·3	38.1 38.0	2I 20		08	32.0 32.0	33.0 32.9	12		06 08	34.0 27.0	30.2 25.9	28 36		06 08	28.0 31.2	19.0 21.2	46 42	
10	36.7	37.2	19		IO I2	31.9 31.7	32.3 $32.0$	I2 I2		10	21.8	20.I	45		I0 I2	33.2 31.2	24.2 22.6	42 38 40	
12 14	36.2 36.4	36.9 36.9	19 19 18	-5.o	14	31.7	32.3	12	-5.8	12 14	24.1	$\frac{22.3}{22.2}$	42 41	-4.3	14	32.0	24.2	38 38	-5.0
16 18.2	35.9 35.6	36.1 36.0	18		. 16 . 18	30.9	31.7 30.8	09		16 18	25.5 23.2	22. I 19.9	40 44		16 18	32.2 35.1	25.0 26.2	38 35	
20	35.2	35.8	17		20	29.8	30.7	09		20	18.7	15.9	51		20	38.3	30.0	29	
22 24	35.6 35.9	35.9 36.0	18		22 24	29.9 30.1	30.4 30.4	09		22 24	21.0	20.6 20.4	45 45		22 24	43.9 45.3	40.0 35.2	17 20	
26	35.1	35.4	17 16		26 28	29. I 29. I	29.3 29.7	07		26 28	24.I 28.8	21.6 26.9	42		26 28	44.6	35 • 4	20	
28 30	34.9 34.1	$35.2 \\ 34.5$	15 16	-5.0	30	27.I	27.1	04	-5.7	30	36.3	32.7	34 24	-4.5	30	45·3 44·7	35·9 35·9	19	-5.
32	34.4	35.0 35.8	16		32 34	27.5 28.1	27.9 28.8	o5 o6		32	35.2 30.0	32.0 27.8	25 33		32 34	43.7	33·9 32·0	22 25	
34 36 38 40	35.I 36.0	37 · I	19		34 36	29.6	30.I	08		34 36	27.0	23.8	38		36	41.8	33.8	23	
38	36.8 38.8	37·4 39.8	20 23		38 40	30.I 31.0	30.8 32.0	09		38 40		33.0 31.5	24 26		38 40	43.7 46.2	35·9 37·2	20 17	
42	37.4	38.2	21		42	31.9	32.9	12	-5.8	42	28	.8b	33		42	48.0	40.I	14	1 _
44	36.3 36.8	37.0 37.1	19 19	-5.0	44 46	31.7 31.6	32.8 32.3	I2 I2	-3.0	44 46	23.5 25.0	22.0 22.9	42	-4.7	44 46	52.9		05	<u>−</u> 5.
48	37.9 38.8	<i>3</i> 8.8	22		48	31.2 32.8	32.0	11		48	29.2	18.0	41		48	45.8	41.9	14	
50 52	38.8	39.6 40.0	23 24		50 52	32.0	33·3 33·3	14		50 52	25.7 24.8	24.5 22.5	38 41		50 52	47.5		09	1
54	39.5	40.0	24		54 56	33.8 35.1	34.8	15 18		54 56	23.2	21.2	43		54 56	50.0	46.I	07	
44 46 48 50 52 54 56 58	39.I 38.0	39.9 38.8	24 22		58	37.2 37.8	37.9 39.8	20	_ 0	50 58	21.7 19.7	19.1	45 48		58	52.9	, 38.9	10	
	-	_			24 00	37.8	39.8	22	-5.8						20 00	56.0	42.1	06	-5

Correction to local mean time is — 2s. 90° torsion = 12.73. Torsion head at oh oom read 67° and at 24h 15m read 63°. Observer—R. R. T.

Correction to local mean time is — 55s. 90° torsion = 15.'54. Torsion head at 15h 28m read 63° and at 21h 12m read 75°. Observer—J. V.

Frida	y, May 13, 1	904			Magn	et scale	erect	Sund	ay, May 15	, 1904			Magnet s	scale inv	rerted
Chr'r time	Scale readings Left Right	. East decli- nation	Temp. C.	Clir'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp C.
h m	d d	0 /	•	h m	d d	0 /	•	h m	d c		0	h m	d d	0 ,	•
20 <b>00*</b> 02 04 06	Lost 37·3 43·0 35·2 43·1 36·0 42·0	2I 25 23 23	-3.9	22 00 02 04 06	56.1 62.0 55.0 61.2 58.8 64.9 57.5 63.1	21 54 53 59 56	-6.0	0 00* 02 04 06	39.1 37. 38.7 38. 38.0 37. 37.9 37.	0 22 2 23 3 23	-8.7	2 00 02 04 06	25.9 21.8 24.9 22.0 26.2 24.0 26.9 24.9	22 45 46 43 42	-8.8
08 10 12 14 16	35.0 41.2 33.2 40.0 32.9 39.9 8.3 58.0 15.0 55.3	19 19 14 17	-3.8	08 10 12 14 16	58.2 63.9 58.2 63.2 58.0 63.9 56.2 60.3 52.8 56.0	57 57 57 53 47	-6.2	08 10 12 14 16	37.I 36. 34.9 34. 34.3 34. 34.9 34. 33.I 32.	5 28 1 29 9 28	-7.9	08 10 12 14 16	27.1 25.4 27.1 24.9 28.0 26.1 26.9 25.0 22.3 21.2	41 42 40 42 48	-8.9
18 20 22 24 26	6.0 52.3 36.0 44.1 32.0 41.4 34.0 42.1	07 24 19 21 28		18 20 22 24 26	47.6 51.1 44.3 47.0 41.1 45.2 41.0 43.1	39 33 29 28		18 20 22 24	33.8 33. 34.8 34. 35.7 35. 36.6 36.	2 30 1 28 3 27 2 25		18 20 22 24	25.0 23.8 23.8 22.1 22.0 20.4 22.6 20.9	44 46 49 48	
28 30 32 34	37.8 47.5 41.8 52.2 43.0 52.0 38.9 52.1 39.1 48.9	35 36 33 31	-4.4	28 30 32 34	36.0 42.0 33.2 37.1 29.8 34.2 28.2 36.1 32.4 38.7	23 17 12 12 17	- 6.4	26 28 30 32 34	35.I 35. 34.8 34. 35.8 35. 36.0 35. 36.9 36.	0 29 0 27 5 26	-8.0	26 28 30 32 34	23.5 22.0 22.8 21.1 23.7 22.1 22.7 21.3 21.3 21.1	47 48 46 48 49	-9.0
36 38 40 42	40.2 50.2 43.0 52.3 46.8 55.2 44.3 48.0	32 36 42 34		36 38 40 42	27.9 37.6 43.8 50.5 42.9 48.0 45.2 52.8	13 36 33 38	6.7	34 36 38 40 42 44	37.5 36. 37.5 36. 37.3 35. 37.7 36.	9 24 6 24 9 25 1 25	0 -	36 38 40 42	22.3 22.I 23.3 23.0 22.2 2I.9 20.I 20.0	49 48 46 48 51	
44 46 48 50 52	44.1 51.3 44.0 50.2 48.3 53.5 50.0 55.2 50.4 54.0	36 36 42 44 44	-5.o	44 46 48 50 52	48.1 55.2 49.9 61.9 47.9 55.8 61.1 67.0 66.9 78.1	43 49 21 43 22 02 15	-6.7	44 46 48 50 52	35.5 34.34.2 32.35.8 34.38.0 36.8 34.	9 30 0 28 8 24	-8.1	44 46 48 50 52*	16.1 15.8 15.9 14.9 12.2 11.0 7.2 6.8 44.7 39.6	58 22 58 23 04 11 10	-9.0
54 56 58 21 00 02	49.2 53.0 48.9 53.7 48.7 53.8 48.1 52.6 45.7 51.1	44 42 42 42 41 38 38	-5.2	54 56 58* 23 00* 02	72.3b 55.0a 46.9 48.0 14.1 47.5 6.0 24.0	22 15 21 48 22 32 54 22 29	-6.8	54 56 58 1 00 02	36.0 34. 36.0 33. 36.8 34. 39.0 36. 37.0 34.	0 28 9 28 9 26 9 23 9 26	-8.2	54 56 58 3 00 02	46.2 4I.I 46.0 4I.9 45.2 40.9 44.4 39.9 45.6 40.9	08 08 09 10	-9.0
04 06 08 10	46.8 50.1 46.1 50.3 48.2 51.1 50.0 51.2 50.0 54.0	37 39 41		04* 06 08 10 12	35.8 45.9 49.0 55.1 36.0 44.0 40.2 48.1 32.3 41.8 39.8 48.8	21 60 22 17 21 58 22 05 21 54 22 05	-6.8	04 06 08 10	31.8 29. 26.7 25. 26.0 24. 24.1 22. 24.2 22.	5 41 4 43 9 46 8 46	9.0	04 06 08 10 12	47.5 42.8 48.0 43.2 47.4 43.8 46.7 43.1 45.9 42.7	06 05 05 06 07	
14 16 18 20 22	52.0 57.8 52.9 57.2 52.9 57.9 50.1 54.8 50.5 55.1	43 48 48 48 44 44	-5.5	14 16.3 18.6 20 22	40.9 49.9 48.0 58.3 51.0 64.1 43.8 57.3	22 05 07 19 26 15	-0.8	14 16 18 20 22	26.8 25. 30.0 28. 32.2 31. 29.1 28. 31.0 29.	1 37 0 33 0 38	-8.3	14 16 18 20 22	45.5 42.6 46.0 43.5 46.5 44.4 45.8 43.3 44.0 41.1	07 06 05 06 10	-9.0
24 26 28 30.3	51.1 55.1 51.9 55.0 53.1 55.8 53.1 56.1 54.8 55.1	45 45 47 47 48	-5.8	24 26 28 30 32	62.8 75.3 54.0 65.2 44.1 58.0 54.1 68.1 45.8 55.8 36.8 47.4	44 29 16 32 15	-7.0	24 26 28 30 32	30.9 29. 30.1 28. 35.0 33. 33.0 30. 34.2 33.	7 35 9 36 5 29 9 32	-8.6	24 26 28 30 32	41.9 39.2 43.1 41.2 45.2 42.9 45.3 42.4 42.2 40.5	13 10 07 08 12	-8.9
34 36 38 40	54.8 55.1 55.1 56.0 56.1 56.8 58.8 59.0 58.1 59.2 59.0 60.2	49 50 54 54 55		34 36 38 40 42	29.0 40.1 37.2 45.8 29.0 39.2	22 02 21 50 22 01 21 49 52		34 36 38 40	33.4 32. 34.1 33. 34.0 33. 32.1 32.	9 30 7 29 8 29 0 32		34 36 38 40	41.0 39.0 41.1 39.8 44.2 42.0 46.8 45.5	14 13 09 04	
42 44 46 48 50	59.9 61.6 60.1 60.5 59.9 62.4 56.6 65.1	57 56 58 57	-6.0	44 46 48 50	35.8 42.9 38.2 45.0 37.0 43.8 32.2 37.9	2I 57 22 0I 2I 59 2I 50	-7.0	42 44 46 48 50	30.1 29. 30.3 28. 31.3 29. 29.5 26. 29.7 26.	0 37 0 35 8 38	-8.8	42 44 46 48 50	47.0 46.2 47.9 46.2 48.0 47.0 47.8 46.0 48.6 47.9	03 03 02 03 23 01	-8.9
50 52 54 56 58	55.5 61.8 55.8 61.5 58.7 64.2 57.0 63.1	54 54 58 56		52 54 56 58 24 00	35.9 48.0 33.0 56.9 35.0 58.0 44.8 65.0 44.0 67.8	22 0I 06 09 22 23	-7.0	52 54 56 58	26.9 23 29.3 26 25.7 22 27.1 24	3 43 6 39 9 44		52 54 56 58	52.6 50.7 54.0 52.3 53.1 52.0 47.5 47.3	22 55 53 22 54 23 02	

Correction to local mean time is — Im 17.5s.

Torsion head at 19h 58m read 81° and at 24h 27m read the same. Observer-J. V.

Observer-J. V.

Sund	lay, May 15,	1904			Magn	et scale	erect	Mon	day, M	Гау 16,	1904			M	agnet s	scale inv	rerted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings	East decli- nation	Temp. C.	Chr'r time	rea	cale dings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m 400	d d 66.9 68.8	0 ,	•	h m	d d	0 ,	0	h m	d	d	0 /	•	h m	d		• •	0
02	72.2 73.1	22	-8.2	6 00	50.2 53.3 53.2 54.8	24 28 32	-7.2	8 00	55.9 55.3 56.6	55.7 55.1	22 56 57	-7.9	10 00 02	62.3 63.0	59.8 59.2	22 48 47	-4.I
04 06	72.9 74.0 71.7 72.2			04 06	36.0 40.8 39.1a	07 08		04 06	56.6 58.1	56.3 57.7	55 52		04 06	63.1 63.1	59.6 59.9	47	
08 10	68.2 69.2 64.1 65.2			09 10	54.7 54.8 52.8 55.2	33 32		08 10	58.2 58.1	57.8 57.6	52		08	62.I 60.9	59.1 58.1	47 48 50	
12 14	62.2 64.0 61.6 63.7	07	-8.5	12	50.5 52.9	28		12	56.9	56.1	53 55		I0 I2	62.9	59.1	48	
16	62.0 63.2	06	-0.5	14 16	34.0 36.1 30.8 34.2	24 02 23 58	-6.8	14 16	57.9 57.9	56.2 57.0	54 53	-7.8	14 16.6		60.0 60.1	47 47	-4.I
18 20	67.2 68.0 72.0 73.3	14 22		18 20	36.4 39.9 41.7 42.9	24 07 I3		18 20	56.8 56.1	55.2 54.9	53 56 56		18 20	60.8 60.3	58.6 58.7	50 50	
22 24	72.3 73.2 72.9 73.3	22 23		22 24	44.3 47.2 34.9 39.1	13 18 05		22	57.9 59.6	57.0 58.0	53 51		22	60.9	58.9 58.7	49	
24 26 28	74.5 75.0 76.9 78.0	25		26 28	43.7 45.0	16		24 26	59.8	58.2	51		24 26	65.7	64.0	50 42	
30	74.0 75.4	29 25 26	-8.5	30	38.0 39.0 37.2 39.1	07 24 07	-6.2	28 30	58.9 57.8	57·3 56.8	52 53	-7.I	28 30	68.7 68.2	66.8 66.1	37 38	-4.0
32 34 36	74.7 75.3 76.9 77.0	28		32 34	12.4 <i>b</i> 13.2 15.9	23 26 23 30		32 34	57.2 58.1	56.7 57.3	54 53		32 34	66.9 64.7	65.0 63.2	40	
36 38*	77.9 78.0 37.2 43.2	30 33		34 36 38	38.3 45.2 43.2 45.1	24 I2 24 IO		34 36 38	59.9 60.1	59.2 59.7	50 49		34 36 38	61.6	60.3 59.2	43 48 50	
40 42	38.8 44.6 37.1 42.1	35 32		40	24.0 27.3	23 47		40	59.8	59. I	50		40	59.7	58.2	51	
44	25.8 30.9	14	-8.6	42 44	26.2 31.6 36.5 38.1	23 52 24 05	-ნ.ი	42.5 44	59.1 58.6	58.7 57.9	51 52	6.6	42 44	60.9 60.2	60.1 59.7	48 '49 48	-4.0
46 48	16.7 22.1 16.9 21.8	00		46 48	34.9 37.1 28.9 32.3	24 03 23 55		46 48	57.1 57.5	56.3 56.9	54 54	į	46 48	61.1 59.1	59.0	48 51	
50 52	20.7 24.8 36.0 40.1	05 29		50 52	41.4 45.0 48.0 49.7	24 I5 24 23		50 52	58.1 59.9	57·7 <b>59.</b> I	52 50		50 52	59.0 59.7	58.1 59.0	52 50	
54 56	35.0 40.3 32.3 37.6	28 24		54 56	29.6 31.2	23 54		54 56	59. I	58.2 56.2	51		54	58.1	57.7	52	
58	33.0 37.3	25		58*	31.6 35.8	24 07		58	57.9 58.1	56.9	54 53		56 58	58.1 60.0	57·4 59.1	53 50	
00 02	32.9 36.3 35.9 38.1	24 28	-8.4	7 00 02	47.8 49.2 53.0 54.1	30 38	-5.7	9 00 02	58.2 58.1	57·7 57·2	52 53	-5.9	II 00 02	63.1 62.2	62.7	45 47	-4.0
04 06	46.0 47.9 61.8 62.0	23 43 24 07		04 05	41.0 41.9 29.9 33.2	19 23 04		04 0б	58.3 58.3	57.I 57.I	53 53		04 06	63.3 65.8	62.0 63.0	45 42	
08 10*	74.9 76.8 52.4 56.1	28 32		08 10	26.0 28.0 27.5 29.0	22 56 22 58		08 10	58.2 59.8	57.I 59.I	53 50		08	63.3	61.8	45 48	
12	45.3 49.1	21	0	12	30.0 32.5	23 03		12	62.1	61.1	47		12	60.3	59.0	50 48	
14 16	41.5 43.9 37.0 40.0	14 24 07	-8.3	14 16	34.2 37.0 34.3 36.9	10 10	<i>-</i> 5⋅3	14 16	62.7 60.2	62.1 60.0	45 49	~5.0	14 16	61.8 63.8	60.3	48 44	-4.0
18 20	26.5 30.4 20.9 24.3	23 51 42		18 20	27.4 30.8 25.6 28.9	23 00 22 57		18 20	58.3 58.8	57.8 58.6	52 22 51		18 20	65.0 63.9	63.8 62.8	42 44	
22 24	23.2 28.0	23 47 24 02		22 24	20.0 24.0	48		22 24	53.0 56.8 59.8 62.8	51.9	23 OI 22 55		22	63.0		45	
26	35.6 38.5	05		26	25.0 26.8	41 22 55		26	59.8	56.1 59.0	50		24 26	62.5	61.3	44 46	
28 30	35.0 40.0 38.9 44.1	06 12	-8. ı	28 30	45.7 49.2	23 32 28	-5.1	28 30	65.9	64.3	46 41	-4.8	28 30	64.2 64.2	63.8	43 43	-4.5
32 34	41.0 45.8 49.9 53.7	15 28		32 34	24.3 38.0 9.2 10.3	23 03 22 29		32 34	65.0 62.8	63.9 61.1	42 46		32 34	64.5 64.9	63.6	43 43	
36 38	49.9 53.7 58.7 61.3 50.4 53.0	41 28		36 38	7.0 8.5 II.I I2.4	26 32		36 38	59.1 59.0	57·3 57.8	52 52		36 38	65.1 64.2	64.1	42	
40	50.0 52.9	28		40	16.2 18.7	41		40.4	58. I	57.I	53		40	63.5	62.2	44 45	
42 44 46	51.0 53.8 51.7 57.0	29 32	-7.8	42 44	18.1 19.5 16.9 18.0	44 41 38	-4.8	42 44	59.3 62.1		51 47 46	-4.3	42 44	64.5	62.7 63.3	44 43	-4.8
	53.7 58.0 52.1 57.2	34 32		46 48	15.0 I6.1 14.0 I5.1	38 37		46 48	62.8 63.4	61.2 61.1	46 46		44 46 48	64.8 64.9	63.7	43 42	
io	52.4 57.0	33		50	14.2 Iố.0 15.0 17.1	37 38		50	63.9 63.7	61.2 61.5	45		50	64.0	62.9	44	
52	41.2 43.0 23.0 26.2	24 I3 23 45		52 54	13.3 15.1	39 36		52 54	бз. і	60.3	45 46		52 54	66.9	66.0	44 39 38	
	23.I 25.9 32.I 34.2	45 23 59		56 58	IO.3 I2.2 II.I I3.I	32 33		54 56 58	61.9 61.8	59.2 59.0	48 40		54 56 58	67.8 67.4	65.7 65.8	38 39	
	<b>.</b>			8 00	14.0 15.2	37	-4.7				-		12 00	66.9		39	-5.0

Correction to local mean time is + 6.5s. Torsion head at oh oom read 79° and at 8h 24m read the same. Observer—J. V.

Correction to local mean time is — 7s. 90° torsion = 17.'62. Torsion head at 7h 50m read 79° and at 12h 20m read 69°. Observer—R. R. T.

Chr'r time		ale lings Right	East decli- nation	Temp. C.	Clır'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp.	Chr'r time	Scale reading Left Ri	S	East decli- nation	Temp
h m	d	đ	0 ,	•	h m	d	d	0 ,	•	h m	đ	ď	0 /		h m	d	d	0 ,	0
2 00 02	50.2 51.1	50.9 51.9	22 53 54	-3.0	14 00 02	46.0 47.0	49.2 50.3	22 48 50	-1.9	0 00*	40.0	37.8 39.1	22 15	-8.8	2 00		.2	23 04 22 58	-7.7
04 <b>о</b> б	49·3 54·2	51.3 56.9	22 52 23 OI		04 06	44.8	48.1 48.1	46 46		04 06	37.2 41.1	34·5 37·2	20 I4		04 06		.7	59 58	
08 01	57·7 57·0	58.8 58.8	05 04		08	42.8	45.9 46.3	43		08 10	45.1 46.6	40.I 43.I	<b>0</b> 9		08	39.1 28	.0	59 22 58	
12	58.8	60.8	07		12	41.9	45.8	42		12	45.9	41.9	07	0.0	12	36.9 27	.0	23 OI	
14 16	56.1 56.1	57.1 57.4	02	-2.9	14 16	45.2 48.1	48.9 52.2	47 52	-1.9	14 16	45·3 46·2	41.9 42.8	08 06	-8.8	14 16		.1	00	+7.7
18 20	58.2 56.1	59.9 57.1	23 02		18 20	48.9 52.1	53.0 56.1	53 58 56		18 20	47.2 46.0	43.0 42.5	05 06		18 20		.9	07 07	
22 24	52.9 53.6	54.I 55.7	22 57 22 59		22 24	50.7 47.1	54.9 50.2	56 50		22	47.2	44.6	04		22	28.0 22	.8	12 12	
26	54.2	56.2	23 00		26	46.9	51.0	50		24 26	45.0 40.2	41.3 36.7	16		24 26	29.9 24	.7	09	
28 30	55.1 62.8	57.1 64.3	13	-2.8	28 30	44·5 44·9	48. 1 4 <b>7</b> . 9	46 46	-I.7	28 30	33.0 25.9	31.0 23.2	26 37	-8.7	28 30	22.2 18	.I	15 20	-7.6
32 34	62.0 61.9	63.8	I2 I2		32 34	40.1 42.7	43.8 46.2	39 43		32 34	16.1	14.0 19.2	52 45		32		.2	27 37	
34 36 38	62.2 62.3	63.1 64.5	12		34 36 38	44.9	47.9 38.5	43 46 31		36 38	17.0	14.8	51	.	34 36 38	10.7	.o .8	37	
40	65.5	67.1	13		40	35.1 41.8	42.7	40		40	21.8	20.0 10.2	43 55		40	18.8 12	.0	27 27	
42 44	69.2 70.9	70.9 73.5	23 27	-2.6	42 44	43.9 43.6	45.8 45.0	44	-1.4	42 44*5	20.8 40.1	17.9 37.0	22 46 23 <b>0</b> 7	-8.6	42 44		.3	32 26	-7.5
44 46 48	68.5 67.7	71.0 68.9	23 21		44 46 48	42.2 39.3	44.7 41.8	42 37	Q <sub>2</sub>	44*5 46 48	47.2 65.0	43.9 58.0	22 56 31		44 46 48		·3	21 24	,
50 52	66.8 63.1	66.8	18		50 52	45.9	48.1 48.0	47 46	2.4	50	57.8	48.3	22 44		50	12.0 9	.0	35:	
54 56	62.2	65.0	13		54 56	40.6	43.7	40		52 54 56	37.0 63.7	17.8 44.9	23 25 22 42		52 <b>*</b> 54	29.0 27	.8	50 51	
50 58	61.1 57.7	62.8 59.1	11 05		58	42.I 39.I	45·3 42.I	42 37		56 58	52.9 47.9	31.0	23 02 23 06		56 58	29.1 27 26.0 24	.8	50 \ 55 :	
00	56.9 58.0	59.I	04 05	-2.3	15 00 02	38.7	41.2 42.1	36 38	-1.4	I 00 02	73·3 57.8	55.8 37.4	22 26 22 53	-8.3	3 00 02	36.7 36	.5	55: 38 26:	-7.4
04 06	55.4	58.1 58.1	02		04 06	41.1 37.0	43.9 40.0	40 34		04	46.0	31.1	23 07		04	59.0 58	.I	23 03	:
80	55.4 53.8	56.4	23 00		08	36.9	30.2	33	64.	o6 o8	52.2 67.9	37.I 46.8	22 58 38		06 08		3	22 5I 4I	
10 12	52.2 46.9	56.3 49.9	22 58 49		I0 I2	36.2	38.4 37.4	32 30		IO I2	68.6	50.3 51.0	34 34		10 12	67.8b 56.1b		22 49 23 07	-7.3
14 16	43.2 39.9	47.8 45.1	45	-2.2	14 16	33.2 32.8	35.I 33.7	27 26	-1.3	14 16	51.9 44.3	35.6 20.8	22 59 23 17	-8.2	14 16	42.I 42	.o .7	29 44	
18	38.1 36.7	43.9 41.8	40 38		18 20	32.3	33.8 34.6	25 26		18*	54.0	33.3	23 50		18	40.9 39	. I	32	
20 22	36.8	41.8	35 35 38		22	33.I 33.4	34.6	27 26		20*4 22	52.0 62.8	29.0 37.0	22 48		20 22		.0	24 22	
24 26	38.8 39.1	43.I 43.3	38		24 26	33.2 32.8	34.I 33.3	20 25		24 26	56.0 59.0	33.0 37.0	42 36		24 26	44.9 44 42.5 42	.5	25 29.	
28 30	38.2	42.8	37 40		28 30	32.1	32.8 32.8	24 24	-1.2	28 30	61.8 56.3	40.8 36.2	31 39	-8.0	28 30	45.5 45 45.0 42	.2.	24 27	-7.2
32	39.9	44.6	40	-2.0	32	32.2 35.0	32.5 35.3	24 28		32	58.0	38.0	36	0.0	32	41.8 39	.9	31	
34 36 38	40.2 44.0	45.1 48.2	40 46		34 36 38	35.3 36.8	35.9	29		34 36	55 5 48 9	37.0 31.1	39 49		34 36	38.1 37 38.3 36	.8	36 36	
38 40	43.9	48.1 48.4	46		40	36.8 36.7	37.1 37.4	31 32		38 40	50.6 47.2	34.I 3I.3	45 50		38 40	30.0 28 32.8 30	.8	50) 45	
42	44.I 45.I	48.8 49.4	46 46 46 48	-2.0	42 44	37·3 39·3	38.0 39.9	32 36	-1.2	42	41.2 40.4	26.1 24.8	22 59 23 00	-7.9	42	32.7 30 36.7 33	.5	45 46 40	-7.I
44 46 48	44.9	49. I	47		44 46 48	39.1	39.8 39.8	35		44 46	48.9	28.3	22 51	7.9	44 46	40.1 36	.9	35	,,-
50	46.1 45.6	50.1 49.6	49 48		50	38.9	40.0	35 35 36		48 50	4I.2 4I.0	27.0 27.1	58 22 58		48 50	41.7 38 36.1 32	.2	33 42 56	
50 52 54 56 58	43.7 42.2	47·5 45·9	45 42		52 54	39.2 38.2	40.0 41.1	36		52 54	37.0 31.9	23.I 17.I	23 O4 13		52 54 56 58	26.2 23 30.3 27		56 50	
56	42.0	45.I 46.I	42 44		56 58	38.7 37.3 35.7	42.I 39.9	37 34		54 56 58	30.2	17.0 20.9	14 09		56	28.7 30		49 48	

Correction to local mean time is — 17s. 90° torsion = 12.'17. Torsion head at 11h 40m read 75° and at 16h 20m read 64°. Observer—R. R. T.

Observer-J. V.

100 35.0 32.8 23 02 32.0 30.0 24 06 21.0 17.7 08 24.0 19.0 12 25.3 20.9 24 14 32.7 27.8 16 39.8 36.1 18 36.9 35.2 20 26.0 24 31.2 28.9 26 32.2 30.3 28 31.9 29.5 30 31.2 29.0 24 31.2 28.9 26 32.2 30.3 28 31.9 29.5 30 31.2 29.0 31 27.1 25.2 36 28.7 26.1 38 27.8 25.7 46 30.9 28.2 48 36.0 33.6 50 31.3 28.4 27.8 25.7 46 30.9 28.2 48 36.0 33.6 50 31.3 28.4 51.3 28.4 52 33.0 31.8 54 34.4 34.3 55 32.7 31.9 58 35.2 34.1 50 35.0 34.1 50 35.0 34.1 50 35.0 34.1 50 37.8 37.0 04 40.0 38.2 06 44.2 42.9 08 44.7 44.2 10 44.9 44.1 11 44.5 43.2 14 47.6 46.9 16 53.3 55.9 20 56.6 55.3 22 55.1 54.7 24 56.3 55.9 25 56.1 54.7 24 56.3 55.9 26 56.2 56.1 28 51.8b 30 51.8 51.2 32 55.6 55.3	Right	decli- nation	Temp. C.	Chr'r time	Scale readin	igs	East decli- nation	Temp. C.	Chr'r time		lings Right	decli- nation	Гетр. С.	Chr'r time	read Left	-	decli- nation	Temp C.
02   32.0   30.0   23 04   24.8   20.4   24 06   21.0   17.7   19.9   19.0   22.0   19.0   24 12   25.3   20.9   14   32.7   27.8   16   36.9   35.2   28.0   22   29.0   26.0   24   31.2   28.9   26   32.2   30.3   32.8   31.9   29.5   30   31.2   29.0   32   27.1   25.0   24   27.1   25.2   26.1   24.8   27.8   25.7   24   27.8   25.7   24   27.8   25.7   24   27.8   25.7   24   27.8   25.7   24   27.8   25.7   24   27.8   25.7   24   27.8   25.7   24   27.8   25.7   24   27.8   25.7   24   27.8   25.7   24   27.8   25.7   24   27.8   27.	d	• ,	•	h m	d	d	0 /	•	h m	đ	d	0 ,	0	h m	d	d	0,	•
04         24.8         20.4         24           06         21.0         17.7         24.0         17.7           10         22.0         19.0         24         23           11         22.0         19.0         24         23           12         22.3         20.9         24         23           18         36.2         28.0         22         29.0         26.0         24         28.9         35.2         30.3         31.9         29.5         32.2         30.3         31.9         29.5         32.2         30.3         31.2         29.0         32.7         27.1         25.2         36.2         28.7         26.1         27.8         25.8         26.1         27.8         25.8         26.1         27.8         25.8         26.1         27.8         25.7         36.2         28.7         26.1         27.8         25.7         36.0         28.2         26.1         24.8         27.8         25.7         36.0         28.2         26.1         24.8         24.8         24.8         24.8         24.8         24.8         24.8         24.8         24.8         25.7         31.9         33.6         33.0         31.8	32.8	23 42 23 46	-7.0	6 00	55.1 5 55.1 6	54·3 63.9	23 09 10	-5.9	8 00	65.8 64.0	62.0 61.2	22 55 57		10 00	25.3 36.0	24.5 33.8	22 57 42	-4.5
08	20.4	24 00		04	56.8	55.9	07		04	69.4	67.0	22 48		04	36.0	36.0	40	
10         22.0         19.0         24           12         25.3         20.9         32.7         27.8           16         39.8         36.1         36.9         35.2           18         36.9         35.2         28.0           22         29.0         26.0         31.2         28.9           226         32.2         30.3         31.9         29.5           30         31.2         29.0         32.2         30.3           31.9         29.5         33.2         27.1         25.2           33         27.1         25.2         25.8           42         27.8         25.8         24.2           42         27.8         25.7         33.6           36         27.8         25.7         33.6           31.3         28.4         33.0         31.8           35.4         33.0         31.8         34.1           35.0         34.1         37.8         37.0           44.2         44.9         44.1         44.2           44.9         44.1         43.5         43.2           44.9         44.1         44.9         44.1		05 01		o6 o8		56.1 59.2	06. 02		06 08	67.3	57.1 63.3	23 02 22 53		o6 o8	25.7 23.0	25.5 22.3	22 56 23 01	
36.9 35.2 36.2 28.0 29.0 29.0 29.0 31.2 28.9 31.2 29.5 31.2 29.0 32.2 30.3 31.9 29.5 31.2 25.0 32.2 7.1 25.2 26.1 25.2 26.1 25.2 36.0 27.8 25.9 26.1 24.8 25.7 36.0 31.8 35.0 31.8 35.0 31.8 35.2 34.1 35.6 32.7 31.9 35.2 34.1 35.0 35.2 35.2 35.0 35.0 35.0 35.0 35.0 35.0 35.0 35.0	19.0	24 03		IO	бо.9	59.8	23 00		10	71.7	69.3	44 58		10	28.5	27.2	22 53	
36.9 35.2 36.2 28.0 29.0 29.0 29.0 31.2 28.9 31.2 29.5 31.2 29.0 32.2 30.3 31.9 29.5 31.2 25.0 32.2 7.1 25.2 26.1 25.2 26.1 25.2 36.0 27.8 25.9 26.1 24.8 25.7 36.0 31.8 35.0 31.8 35.0 31.8 35.2 34.1 35.6 32.7 31.9 35.2 34.1 35.0 35.2 35.2 35.0 35.0 35.0 35.0 35.0 35.0 35.0 35.0	20.9	23 59 48 36	_7.o	12 14		61.8   69.8	22 56 45	-5.8	12 14	63.0	60.2 63.0	56	-5.3	12 14	29.3	29.3 28.3	50 51	-4.3
8       36.9       35.2         36.2       28.0         36.2       28.9         36.2       28.9         31.2       28.9         32.2       30.3         31.9       29.5         31.2       25.0         27.1       25.2         27.8       25.9         28.7       26.1         28.7       26.1         27.8       25.9         36.0       33.6         33.0       32.2         33.0       33.6         34.4       34.3         35.2       34.1         35.3       37.8         37.8       37.0         40.0       38.2         44.9       44.9         44.9       44.9         44.9       44.9         44.9       44.9         44.9       44.9         45.6       55.1         56.3       55.5         56.6       55.3         55.1       56.7         56.3       55.5         56.3       55.5         56.3       55.5         56.3       55.5	36.1	<b>3</b> 6	7.0	16	66.0	65.3	52	3.0	16	64.8	63.1	55		16	35.5	34.5	22 42	
22 29.0 26.0 31.2 28.9 32.2 30.3 31.9 29.5 31.2 29.0 31.2 29.0 31.2 29.0 31.2 25.0 27.1 25.0 27.8 25.8 25.8 25.8 26.1 24.8 27.8 25.7 30.9 28.2 26.1 24.8 27.8 25.7 30.9 28.2 36.0 31.3 28.4 33.0 31.8 36.0 33.6 31.3 28.4 34.3 35.0 34.1 37.8 37.0 35.0 35.0 34.1 37.8 37.0 44.2 42.9 44.2 44.9 44.1 43.5 43.2 44.9 44.1 43.5 43.2 44.9 44.1 43.5 43.2 44.9 44.1 22 42.9 56.6 55.3 55.8 56.6 55.3 55.8 56.6 55.3 55.8 56.1 56.2 56.9 56.6 55.3 55.8 56.2 56.9 56.6 55.9 56.1 56.9 56.9 56.9 56.9 56.9 56.9 56.9 56.9	35.2	39 45		18 20	64.5 6 65.8 6	63.9	54 53		18 20	65.5	63.5	54 55		18 20*	22.5 44.0	22.I 38.0	23 02 28	
32.2 30.3 31.9 29.5 31.2 29.0 27.1 25.2 27.1 25.2 27.1 25.2 27.8 25.0 27.8 25.0 27.8 25.7 30.9 28.2 36.0 33.6 31.3 28.4 30.9 28.2 36.0 33.6 31.3 28.4 32.7 31.9 35.2 34.1 35.2 34.1 35.3 35.2 34.1 37.8 37.0 44.2 42.9 44.2 42.9 44.2 44.2 44.3 5 44.2 44.9 44.1 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 44.0 45.0 55.3 55.9 56.6 55.3 55.9 56.6 55.9 56.1 56.3 55.9 56.1 56.2 56.1 56.3 55.9 56.1 56.3 55.9 56.1 56.3 55.9 56.1	26.0	52 48		22	66.5	64.9 64.8	52		22	65.2	62.7	55		22	39.0	36.8	33	
88 31.9 29.5 31.2 29.0 27.1 25.0 27.1 25.0 27.1 25.0 27.8 25.9 27.8 25.8 27.8 25.7 30.9 28.2 30.9 33.6 31.3 28.4 30.9 33.6 31.3 28.4 33.0 31.8 34.4 34.3 35.2 34.1 35.2 34.1 35.2 34.1 37.8 37.0 40.0 38.2 44.2 42.9 44.2 42.9 44.9 44.1 44.9 44.1 43.5 43.2 44.9 44.1 44.9 44.1 45.6 46.9 55.3 55.3 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.5 56.8 56.9 54.9		48 46		24 26		65.1 66.0	51 49		24 26	65.6	64.2 61.5	53 22 57		24 26	50.4 52.0	48.0 49.2	15 23 I3	
27. I 25.0 27. I 25.2 28. 7 26.1 28. 7 25.1 28. 8 25.8 27. 8 25.8 27. 8 25.7 30.9 28.4 27. 8 25.7 30.9 28.4 27. 8 25.7 30.9 33.6 31.3 28.4 33.0 31.8 34.4 34.3 32.7 31.9 35.2 34.1 37.8 37.0 40.0 38.2 44.2 42.9 44.2 42.9 44.2 44.9 44.1 43.5 44.9 44.1 43.5 43.2 44.0 44.1 43.5 43.2 44.0 44.1 43.5 43.2 44.0 44.1 45.6 46.9 55.3 55.9 56.6 55.3 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8 56.3 55.8	29.5	47 48		28		61.9	22 57		28	61.3	59.3	23 00		28	65.3	59.7	22 54	١
27.1 25.2 28.7 26.1 27.8 25.8 27.8 25.8 26.1 24.8 27.8 25.7 30.9 28.2 36.0 31.3 28.4 33.0 31.8 34.4 34.3 32.7 31.9 35.2 34.1 37.8 37.0 40.0 38.2 44.2 42.9 44.2 42.9 44.9 44.1 43.5 43.2 44.9 44.1 43.5 43.2 44.9 44.1 43.5 43.2 44.9 44.1 43.5 43.2 44.9 44.1 24.9 44.1 25.8 43.2 47.6 46.9 57.3 55.9 56.6 55.3 57.3 55.9 56.6 55.3 57.3 55.9 56.6 55.3 57.3 55.9 56.6 55.3 57.3 55.9 56.6 55.9 56.8 55.1 56.1 56.3 55.8 56.3 55.9 56.3 55.9 56.3 55.9 56.4 55.9 56.5 55.9 56.8 55.2 56.9 56.9 56.9 56.9 57.3 55.9 56.9 56.9 57.3 55.9 56.9 56.9 57.9 56.9		48 54	-6.9	30.3	49.2 4 50.1 4	47·7 47.8	23 I9 18	-5.8	30 32	64.6	63.0 62.1	22 55 56	-5.0	30 32*	65.3	61.3 33.6	53 29	-4.3
27.8 25.8 226.1 24.8 27.8 25.7 26.6 27.8 25.7 27.8 28.2 28.3 30.9 28.2 28.4 31.3 28.4 29.3 31.3 28.4 20.3 31.3 28.4 20.3 31.3 28.4 20.3 31.3 28.4 20.3 31.3 31.8 20.3 31.9 20.3 31.9 20.3 32.7 31.9 20.3 32.7 31.9 20.3 32.7 34.1 20.3 35.0 34.1 20.4 40.0 38.2 20.4 40.0 38.2 20.4 40.0 38.2 20.4 40.0 44.1 20.4 40.0 44.1 20.4 40.0 44.1 20.4 40.0 44.1 20.4 40.0 44.1 20.5 43.5 43.2 40.0 40.0 40.0 20.5 40.0 20.5 50.6 55.3 20.5 55.1 54.7 20.5 55.1 54.7 20.5 55.1 55.8 20.5 55.1 55.8 20.5 55.1 55.8 20.5 55.1 55.8 20.5 55.1 55.8 20.5 55.1 55.8 20.5 55.1 55.9 20.5 55.9 20.5	25.2	54		34 36	55.0	51.9	II		34	64.3	60.9	58		34	42.2	39.8	25	
27.8   25.8   26.1   24.8   27.8   25.7   24.8   27.8   28.2   30.9   28.2   36.0   33.6   31.3   28.4   33.0   31.8   34.4   34.3   32.7   34.1   35.0   34.1   35.0   34.1   37.8   37.0   40.0   38.2   37.8   37.0   44.2   44.9   44.1   24.9   44.9   44.1   24.9   44.9   44.1   24.9   44.9   44.1   24.5   43.5   43.2   47.6   46.9   55.3   355.9   56.6   55.3   55.8   56.2   56.1   56.2   56.1   56.2   56.1   56.2   56.1   56.2   56.1   56.3   55.8   56.2   56.1   56.2   56.1   56.2   56.1   56.2   56.1   56.3   55.8   56.2   56.1   56.2   56.1   56.3   55.8   56.2   56.1   56.2   56.1   56.2   56.1   56.3   55.8   56.2   56.1   56.2   56.1   56.2   56.1   56.2   56.1   56.2   56.1   56.2   56.1   56.2   56.1   56.2   56.1   56.2   56.1   56.2   56.1   56.2   56.1   56.2   56.3   55.8   56.2   56.1   56.2   56.1   56.2   56.1   56.2   56.3   55.8   56.2   56.1   56.2   56.3   55.8   56.2   56.1   56.2   56.3   55.8   56.2   56.3   56.2   56.3   56.2   56.3		52 53		36 38	59.2 5 60.3	57.0 58.3	04 23 02		34 36 38	69.3 64.3	65.7 63.2	49 22 55		34 36 38	39.0 40.6	38. <i>2</i> 39.0	29 27	1
4   27.8   25.7   30.9   28.2   36.0   33.6   31.3   28.4   33.0   31.8   34.4   34.3   35.2   34.1   35.0   34.1   37.8   37.0   40.0   38.2   44.2   42.9   44.7   44.2   42.9   44.7   44.1   2   43.5   43.2   47.6   46.9   57.3   55.1   56.6   55.3   55.1   56.6   55.3   55.1   56.6   55.3   55.1   56.6   55.3   55.1   56.7   56.3   55.8   56.6   55.8   56.6   55.8   56.2   56.1   56.3   55.8   56.2   56.1   56.3   55.8   56.2   56.1   56.3   55.8   56.2   56.5   5	25.8	53		40	62.2	бо.о	22 59		40	59.7	56.8 60.6	23 04		40	44.0	39.2	24	,
31.3 28.4 33.0 31.8 34.4 34.9 35.2 34.1 35.0 34.1 35.0 34.1 37.8 37.0 40.0 38.2 44.2 42.9 44.7 44.2 0 44.9 44.1 2 43.5 43.2 4 47.6 46.9 53.3 55.9 56.6 55.3 2 55.1 54.7 4 56.3 55.8 56.2 56.1 56.3 55.8 56.2 56.1 56.3 55.8 56.2 56.1 56.3 55.8 56.2 56.1 56.3 55.8 56.2 56.1 56.3 55.2 56.4 56.2 56.5 56.1 56.5 56.1 56.5 56.1 56.6 55.3 56.9 56.1		55 53	-6.9	42 44		59·3 59·7	23 OI 00	-5.7	42 44	64.3 55.3	50.5	22 57 23 12	-5.o	42 44	39·3 41.6	37.0 32.8	30 31	-4.2
31.3 28.4 33.0 31.8 34.4 34.3 36 32.7 31.9 8 35.2 34.1 9 35.0 34.1 9 37.8 37.0 40.0 38.2 44.2 42.9 44.9 44.1 2 43.5 43.2 44.9 44.1 2 43.5 43.2 47.6 46.9 53.3 55.9 56.6 55.3 55.1 54.7 56.3 55.8 56.2 56.1 56.3 55.8 56.2 56.1 57.8 56.2 56.1 56.2 56.1 56.2 56.1 56.2 56.3 55.8 56.2 56.1 56.3 55.8	28.2	49	0.9	46	58.9	56.2	05	3.7	44 46 48	55·3 50.8 67.2	47.0	23 18		44 46 48	42.3	29.3	34	
33.0 31.8 34.4 34.3 32.7 31.9 35.2 34.1 35.0 34.1 2 37.8 37.0 40.0 38.2 44.2 42.9 44.2 44.2 44.9 44.1 2 43.5 43.2 44.6 46.9 53.3 52.9 56.6 55.3 2 57.3 55.9 56.6 55.3 2 55.1 54.7 56.3 55.8 56.2 56.1 56.3 55.8 56.2 56.1 57.3 55.9 56.6 55.3 57.3 55.9 56.6 55.3 57.3 55.9 56.6 55.3 57.3 55.9 56.6 55.3		40 48		48 50		58.2 59.0	02 <b>00</b>		50	73.8	65.4 71.3	22 51 41		50 52	34.6	29.4 25.6	40 46	
35.2 34.1 35.0 34.1 37.8 37.0 40.0 38.2 44.2 42.9 84 44.7 44.2 42.9 44.1 47.6 46.9 66 53.3 52.9 8 57.3 52.9 56.6 55.3 52.9 56.6 55.3 55.8 56.2 56.1 86 56.2 56.1 86 51.8 51.2 2 54.9 54.9	31.8	44		52	58.3	55-3	06		52	72.6	70.2 67.2	43		52	34·3 28.3	27.4 20.8	41	
8 35.2 34.1 35.0 34.1 37.8 37.0 40.0 38.2 40.0 38.2 44.2 42.9 8 44.7 44.2 0 44.1 22 43.5 43.2 47.6 46.9 6 53.3 52.9 8 55.3 52.9 56.6 55.3 2 55.1 54.7 4 56.3 55.8 56.2 56.1 51.8 50.2 54.9 54.9 54.9		41 44		54 56		55.0 54.0	об 08		54 56	70.6	67.0	47 47		54 56	27.2	20.0 20.I	51 53	
22 37.8 37.0 40.0 38.2 44.2 42.9 80 44.7 44.2 12 43.5 43.2 14 47.6 46.9 15 57.3 52.9 16 55.3 55.9 17 56.6 55.3 18 56.2 56.1 18 56.2 56.1 18 51.8 51.2 19 54.9 54.9	34.1	41		58	58.0	56.0	об		58 9 00	69.1 67.6	64.6 62.5	50	-4.8	58 11 00	26.8 34.2	22.2 28.6	51	١.,
40.0 38.2 44.2 42.9 8 44.7 44.2 2 43.5 43.2 4 47.6 46.9 55.3 55.9 56.6 55.3 2 55.1 54.7 4 56.3 55.8 56.2 56.1 51.8 51.2 54.9 54.9		40 36	-6.7	7 00		58.0 60.0	23 02 22 59	-5·7	02	68.0	63.6	53 52	-4.0	02	36.9	30.1	40 37	-4.0
8 44.7 44.2 0 44.9 44.1 2 43.5 43.2 47.6 46.9 6 53.3 52.9 8 57.3 55.9 0 56.6 55.3 2 55.1 54.7 4 56.3 55.8 56.2 56.1 51.86 51.86 51.86 51.86 51.87 51	38.2	34		04	64.0	60.5	58		04 06	72.2 74.6	68.6	45		04 06	33.6	27.8	42	
0 44.9 44.1 2 43.5 43.2 4 47.6 46.9 53.3 52.9 8 57.3 55.9 0 56.6 55.3 2 55.1 54.7 4 56.3 55.8 56.2 56.1 51.86 0 51.8 51.2 2 54.9 54.9		27 26		06 08		61.0 58.2	22 57 23 OI		o8*	43.3	71.3 33.8	41 36		08	37·7 37.0	34·5 35·6	33	
44 47.6 46.9 53.3 52.9 57.3 55.9 56.6 55.3 55.1 54.7 56.3 55.8 56.2 56.1 56.2 56.1 51.8b 51.8b 60 51.8 51.2 62 54.9 54.9	44.I	25		10	62.8	60.7	22 58		IO I2	36.9 32.0	36.3 30.3	39 48	,	I0 I2	32.4	32.0	39	
6   53.3   52.9   57.3   55.9   56.6   55.3   54.7   56.3   55.8   56.2   56.1   58   51.8   51.8   51.8   54.9   54.9   54.9   54.9		27 21	-6.4	12 14		54.0 51.0	23 08 12	-5.7	14	27.1	26.6	54	-4.9	14	32.4 41.6	31.0 37.6	40 28	-3.8
56.6 55.3 2 55.1 54.7 4 56.3 55.8 56.2 56.1 51.86 51.86 51.86 51.86 51.86	52.9	12	0.4	16	60.7	57.8	23 02		16	29.8 41.1	28.9 38.3	50		16 18	41.0	37.1	29 26	
22   55. I   54.7 44   56.3   55.8 56.2   56. I   86 51.86   51.86 0   51.8   51.2 2   54.9   54.9		- 06 07		18 20		59.8 60.2	22 60 22 59		20	41.0	38.3	34 34		20	42.2	38.8 43.5	19	
n 51.8 51.2 2 54.9 54.9	54.7	09		22	60.8	58.3	23 02		22 24	29.0 24.3	27.7	52 22 60		22	47.0	43·5 41.8	19	
0 51.8 51.2 2 54.9 54.9	55.8 56.1	07 07		24 26	63.2	57.2 61.0 61.0	23 03 22 58		26	24.0 29.6	23.0 21.7 28.8	23 OI		24 26	45·4 42.6	39.0	21 26	
2   54.9   54.9	.86	T4	<u></u>	28	64.0	61.0	57	- 0	28 30	29.6	28.8 20. f	22 51 48	-4.9	28	39.0 36.3 35.8	35.8 33.0	31	
4 60.2 59.6 23	51.2	14 09	-6.1	30 32	64.0 6	61.0 59.1	22 57 23 01	-5.8	33	32.0 33.8	29.5 31.8	45 46	4.9	30 32	35.8	32.6	35 36	-3.8
	59.6	23 01		34 36	60.0	56.9	23 04		34 36	32.3 27.3 26.8 26.8	31.3 26.0	46		34 36 38 40 42	35.6 36.3	32.6 33.6	36	
6 67.0 <i>a</i> 22 8 67.5 67.1	67 I	22 50 50		30	63.0	60.2   61.9	22 58 56 22 58		38	26.8	25.3	55 56 56 46 46		38	34.2	32.0	35 38	
0   63.8 63.2	63.2	56	- 1	40	62.9	51.б	22 58		40 42	26.8 32.8	24.3 31.3	56		40	33.0 32.6	30.8	40	
2   63.0 62.9	62.9	56 53	-6.0	42 44	59.3 5 59.0 5	57.8 57.5	23 03 04	-5.8	44 46	33.1	30.8	46	-4.8	44	33.8	31.8	38	-3.0
6   69.3 68.2	68.2	47		46	59.0 5	55.3	об	_,· =	46 48	30.9 31.6	28.5 30.2	50 48		46	34.0	32.3	40 38 38 38	
8   69.2 68.3 o   64.8 64.2	68.3	47 54		48 50	60.8 5	57.8 50.8	23 02 22 57		50	32.3	30.3	47		50	34·3 34·6	32.3 33.0	37	1
2 64.3 64.1 22	64.1	22 54		52	64.2	50.8	22 57		52	30.3 25.6	28.3	50		52	34.3	32.6	37	
59.0 <i>b</i> 23 6 50.7 50.0 8 52.1 50.9	b $b$	23 02 16		54 56	58.0 5 63.3 6	55.8	23 06 22 58		54 56 58	25.0 24.6 23.0	24.3 24.0 22.4	22 58		44 46 48 50 52 54 56 58	34.2 35.1 36.3	33.3	37 38 36	

Observers—J. V. and W. J. P., who alternated from 8h o6m to Observer—W. J. P. 8h 12m.

#### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time		ale ings Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sc read Left	•	East decli- nation	Temp C.
h m 12 00 02 04 06 08 10	d d 36.4 34.6 36.3 35.8 38.5 37.1 39.5 38.0 39.3 37.6 38.9 37.3	22 34 33 30 29 30 30	-3.6	h m 14 00 02 04 06 08 10	d 38.6 38.3 40.0 41.9 43.0 49.0	d 37.6 37.5 38.7 41.5 42.7 43.5	22 30 30 28 24 23 17	-3.0	h m 16 00 02 04 05 08 10	d 43.9 45.3 45.6 46.3 47.6 47.8	d 43·3 44·7 45·0 45·7 46.8 47·2	0 / 22 21 19 19 18 16 15	-3.I	h m 18 00 02 04 06.3 08 10	44.7 46.8	d 36.8 37.1 38.9 41.1 44.0 46.2	22 32 31 28 25 20 17	-3.8
12 14 16 18 20 22 24 26	38.8 37.3 37.5 36.3 37.0 35.6 37.3 36.0 37.6 36.2 37.1 35.5 38.2 37.3 37.6 36.6	30 32 33 32 32 33 31 31	-3.6	12 14 16 18 20 22 24 26	44.4 44.6 47.6 44.1 51.7 57.1 58.6 60.2	44.3 44.0 46.5 43.6 51.3 56.0 58.3	20 20 16 21 09 22 01 21 58 56	-3.0	12 14 16 18 20 22 24 26	46.3 45.8 44.6 46.0 49.5 48.3 49.3	45·3 44·9 43·6 44·8 48·3 46·6 47·8 47·7	18 19 20 19 13 15 14	-3.3	12 14 16 18 20 22 24 26	48.2 49.0 49.1 50.4 50.3 51.3 50.1 49.9	47.2 48.1 47.2 47.9 47.2 48.5 47.1 48.2	15 14 14 13 13 12 14 13	-3.5
28 30 32 34 36 38 40	37.6 36.5 36.8 35.8 38.2 37.3 38.3 37.3 37.3 36.3 37.3 36.5 37.6 36.9	31 30 32 32 31	-3.5	28 30 32 34 36 38 40	59.0 60.3 62.6 60.6 60.3 64.0 62.6	58.5 59.3 61.3 59.1 59.4 61.6 60.8	58 56 53 56 56 51 53	-2.9	28 30 32 34 36 38 40	51.6 53.5 51.0 52.6 55.3 57.0 56.3	49.9 51.8 49.6 51.3 54.3 56.1 55.5	07 11 08 04 01 02	-3.5	28 30 32 34 36 38 40	48.3 46.3 39.1 38.8 47.6 50.3 50.7	46.9 45.8 36.6 35.0 44.7 48.9 49.1	15 18 30 32 17 12	-3.3
42 44 46 48 50 52 54 56	38.2 37.4 38.2 37.3 37.6 36.9 37.8 36.9 37.5 36.6 37.4 36.3 38.3 37.3	30 31 31 31 32 32 30	-3.6	42 44 46 48 50 52 54 56	67.0 67.3 65.8 67.0 62.6 60.1 57.6	66.3 66.1 63.9 65.6 61.3 58.3 56.6	45 45 48 46 53 21 57 22 00	-2.8	42 44 46 48 50 52 54	54.7 53.0 52.9 53.6 55.3 56.4 57.3	54·3 52·7 52·4 53·3 54·9 56·2 57·0	04 07 07 06 03 01 00	-3.7	42 44 46 48 50 52 54	51.8 53.9 37.9 51.5 55.2 63.9 77.9	47.1 47.2 30.1 38.8 30.9 33.3 46.8	12 10 36 19 22 22 14 21 52	-3.1
56 58 13 00 02 04 06 08 10	38.3 38.3 38.1 37.6 37.3 36.5 38.0 37.5 38.8 38.2 38.9 38.1 38.5 37.3 38.9 38.2	30 32 31 29 29	-3.6	56 58 15 00 02.4 04 06 08 10	63.0 53.0 48.6 45.3 42.8 43.6 44.8	60.3 51.8 46.3 44.3 41.5 42.3 43.2	21 53 22 08 15 19 24 22 21 22	-2.8	54 56 58 17 00 02 04 06 08 10	57.3 56.8 56.8 57.6 57.6 57.0	57.1 56.6 56.8 57.2 56.7 55.8 56.0	01 00 01 01 01 00	-3.9	56* 58 19 00 02 04 06 08 10	44.1 43.4 41.1 40.9 40.2 40.3 37.8 36.7	9.0 8.1 6.8 7.8 8.8 10.7 9.7	51 52 55 54 54 53 55 21 56	-3.0
12 14 16 18 20 22 24	39.6 38.5 39.9 39.1 39.4 39.1 40.0 39.3 40.1 39.8 34.6 34.6 39.3 39.1	36 28	-3.6	12 14 16 18 20 22 24	44.1 41.8 43.3 40.9 41.3 42.9 41.3 44.3	43.0 40.0 41.3 39.6 39.8 40.3 41.0 43.8	26 23 27 26 26 25 21	-2.8	12 14 16 18 20 22 24	57.1 57.6 57.6 57.0 56.3 56.6 55.0 53.6	56.1 56.5 56.0 55.8 55.1 53.3 52.0	01 00 01 02 02 05 07	-4.0	12 14*5 16 18 20 22 24	33.5 68.1 64.0 64.3 62.4 62.9 61.0	7.2 37.9 36.9 36.2 37.1 35.8 35.2	22 01 10 14 14 15 16 18	-3.0
26 28 30 32 34 36 38	39.8 39.6 40.6 40.6 40.3 40.1 40.1 39.8 39.3 39.3 38.6 38.3 39.6 39.3	28 26 27 27 28 30 28	-3.5	26 28 30 32 34 36 38	41.3 44.3 45.3 46.0 45.6 45.2 45.7 46.6	41.0 43.8 44.6 45.6 45.3 45.0	25 21 19 18 19 19	-2.9	26 28 30 32 34 36 38	53.6 53.3 51.6 51.7 51.0 50.3 51.8	51.0 50.0 50.0 49.1 49.3 50.3	08 08 10 10 11 12 10	-4.0	26 28 30 32 34 36 38	61.9 50.5 56.9 61.2 61.0 53.2 60.0	37.2 28.7 37.8 41.9 42.3 36.7 47.1	15 31 19 12 12 22 09	-2.9
40 44 44 48 50 54 56 58	40.9 40.5 41.0 40.8 40.3 40.1 39.8 39.2 34.0 33.8 39.3 39.0 39.1 38.2 38.6 38.3 39.5 38.2	26 26 27 28 37 28 28 28 29 30	-3.3	40 42 44 46.3 48 50 52 54 56 58	40.0 49.3 50.3 47.6 46.2 47.0 48.5 50.3 47.2 44.5	46.3 49.2 49.7 47.0 45.5 46.3 48.3 50.2 46.3 43.5	17 13 11 16 18 17 14 11 16 21	-3.0	40 42 44 46 48 50 52 54 56 58	50.6 52.3 52.8 51.9 46.6 46.3 44.0 41.6 39.7 39.3	50.2 51.1 51.9 50.6 46.2 46.1 43.0 40.8 38.8 38.2	11 09 08 09 17 17 22 25 28	-4.0	40 42 44 46 48 50 52 54 56 58	58.2 65.6 71.1 67.8 68.2 63.2 61.6 58.7 59.9 60.9	44.0 53.0 59.0 55.9 55.8 50.8 51.1 48.1 51.7 52.7	22 13 21 60 51 56 21 56 22 04 05 09 05	-2.9

Observer-W. J. P.

Observers—W. J. P. and R. R. T., who alternated from 17h 38m to 17h 48m.

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Cht'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scaread Left	_	East decli- nation	Temp. C.	Cht'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp C.
h m	d	d	6 ,	0	h m	d	d	0 /	•	h m	d	d	d ,		h m	d	đ	0 ,	
0 00	59.ì 62.9	51.0 56.0	22 Ô7 bo	-3.0	22 00 02.4	49.4 51.9	48.9 51.0	22 I6 I2	-3.4	16 00 02	31.0 31.2	35.8 35.8	21 42 42	-4.3	18 00 02	49.9 47.0	51.1 48.1	22 09 22 04	-5.3
04	60.8	53.1	22 04		04	50.8	50. I	14		04	33.2	38.2	46		04	44.0	45.3	21 60	
o6 o8	63.7	57.8 54.3	21 58	1	06 08	50.8 51.8	49.8 50.7	14		06 08	33·3 34.8	38.1 39.0	46 47		o6 o8	41.7	42.0 41.9	55 54	
10	59.3	58. i	<b>6</b> I		10	52.0	51.1	12		10.5	36.9	40.9	51		10	41.0	41.7	54	
12 14	\$4.6 \$8.1	48.9 52.2	12 06	-3.0	I2 I4	51.9 52.1	51.0 51.2	12	-3.4	12 14	38.0 40.0	42.I 43.9	52 55	-4.6	12 14	41.0 38.1	42.2 40.0	55 51	-5.4
16 18	59.2	54.I	04 06		16	52.2	51.5	12		16	40.3	44.4	56		16	32.9	34.2	42	
20	57·9 54·5	52.9 49.7	11		18 20	53.1 53.8	52.I 52.9	10		18 20	41.6	45.1 47.8	21 58 22 01		18 20	31.9 33.8	33·5 36.0	41 44	
22	54.2	49.8	IÍ		22	54.0	53.3	09		22	44.3	49.I	03		22	37.0	38.8	49 50	
24 26	55.9 55.0	50.9 50.9	<b>0</b> 9	1	24 26	54.I 51.3	53.2 50.9	09 I3		24 26	46.0 46.1	49.7 49.9	05 05		24 26	37·5 36.2	39.2 38.8	48	
28	56.2	52.1	08 12	± â O	28	53.7	53.0	09 07	-3.3	28	45.8	50.0	05	4 7	28	37.0 42.0	39.1 42.8	49 56	-5.7
30 32	53.9	49.3 50.2	11	-3.0	30 32	55.2 55.7	54.9 55.2	06	-3.3	30 32	43.0 45.1	47·3 48.0	02	-4.7	30 32	42.2	43.7	21 57	-3.7
34 36 38	55.7	52.8 51.1	80 IO	ł	34 36	51.9 51.7	51.0 50.9	12 12		34 36 38	44.3	46.9	22 OI 21 55		34 36	46.2 47.7	47.0 49.3	22 03 06	
<b>3</b> 8	55.0	52.8	08	ļ	38	52.3	51.7	11		38	40.0 37.9	43.I 41.0	51		38	51.2	49.2	08	
40	54.8	51.6	10		40 42	52.2 52.6	51.7 51.9	12 11		40 42	38.1 38.9	40.2 41.0	51 52		40 42	48.0	.8b	22 06 21 55	
42 44	54.5 52.1	51.3 49.6	13	-3.1	44	52.9	52.1	II	-3.2	44	38.3	40.8	52	-4.8	44.3	40.0		21 52	-5.8
46 48	51.1 48.9	49.2 46.9	14		46 48	53.1 51.9	52.7 51.0	I0 I2		46 48	38.3	40.3 37.3	51 46		46 48	44.7 48.9	45.I 49.2	22 00 06	
50	49.3	47.6	17		50	50.7	50.0	14		50	35.8	37.7	47		50	47.0	48.0	22 04	
52 54	49.8	47.9 48.5	16		52 54	50.8 51.0	50.2	14		52	39.0 38.1	40.8 40.8	52 51		52 54	43.9 44.8	45.1 4 <b>5.2</b>	2I 59 22 00	
56.3	50.9	49.2	14		56	50.7	50.1	14		54 56	40.3	42.8	55		54 56	45.9	46.0	02	
58 1 00	52.7	51.0 49.4	I2 I4	-3.2	58 23 00	50.0 49.8	49.3 49.1	15 16	-3.2	58 17 00	42.5	44.9 <b>4</b> 6.3	2I 58 22 00	-4.9	58 19 00	52.9 56.2	53.1 56.7	13 18	-6.0
02	50.2	49.0	15	3.2	02	49.I	48.0	17		02	44.5	47.0	10	4.7	02	55.0	57.I	17	
04 06	50.4 54.1	49.3 52.9	09		04	47.8 47.3	46.9 46.0	19 20		04 06	44.9 45.1	46.8 46.8	01 02		04 06	50.6 48.0	52.1 52.0	08	
o8	56.2	55.2	106		08	46.4	45.1	21		08	45.0	46.0	22 01		08	51.9	54.0	12	
IO I2	56.3	56.0 52.9	05 09		10 12	47.0 46.9	45.8 45.9	20 20		10 12	43.7 38.1	44. I 38. 9	21 58		I0 I2	53.2 51.8	55.0 53.2	14 12	
14	54.3	53.2	09	-3.2	14	46.7	45.3	21	-3.I	14 16	35.1	37.4	46	- <b>5.0</b>	14 16	52.7	54.0	13	-6.0
16.5 18	54.0 56.0	52.9 54.3	<b>0</b> 9		16 18	46.1 45.2	45.2 44.6	22 22		18	32.0	33·4 32·2	39		18	50.0 47.9	51.9 48.6	09	
20	57.1	56.3	04		20	44.8	44.0	23		20	31.7	33.2	40		20 22	46.2		03 22 OI	
22 24	55.6 52.3	54.2 51.1	07 12		22 24	45.0 45.8 46.2	44.3 45.1	23		22 24		37.0 42.2	47 55		24	45.6 42.8	44.7	21 58	
26	50.8	49.9	14		26 28	46.2 46.9	45.6 46.1	2I 20		26 28	42.9	44.2	21 58 22 00		26 28	36.9 36.4	39. I	49	
28 30	50.4	49.9 50.1	14	-3.3	30	47.0	46.1	20	-3.2	30	44.2 46.2	45.9 46.9	02	-5.2	30	35.0	39.1	50 48 45 38	-6.0
32	50.1	49.3	15		32	46.0	45.2	22 25		32	45.0	45.8	01 04		32	34.I 30.I	37.0 32.2	45	
34 36	50.1 50.2	49 3 49 3	15 15		34 36 38	44.I 42.I	42.9 41.0	28		34 36 38	46.7 48.8	47·5 49·2	06	İ	34 36	32.0	32.7	40	
36 38	50.I	49.2	15		38	41.4 42.1	39.9 40.7	29 28		38 40	50.9 54.0	51.0 56.2	09 16		38 40	28.2	28.8 29.3	34	
40 42	§1.0 §2.8	50.2 51.9	14 11		40 42	44.0	42.3	25		42	59.8	60.0	24		42	31.0	31.4	38	
44	53.5	52.5	10	-3.3	44 46	45.3	43.9	23 20	-3.3	44	60.6 59.8	60.8 59.0	25 23	-5.2	44	29.0 26.3	30.0 30.0	34 35 38 36 34 30	-6.
40 48	52.8 51.3	51.7 50.6	11		48	47.1 48.0	45.3 46.1	19		44 46 48	57.6	57.8	20		44 46 48	24.0	27.I	30	
50	51.7	50.7	13		50	47·4 46.0	46.0 44.8	20 22		50 52	55·3 53·2	56.1 54.2	17		50 52	31.0 36.8	38.3 39.9	44 50	
52 54	51.1 51.1	50.3 50.2	13 14		52 54	44.I	42.6	25 28		54 54	54.0	55.2	15		54	40.8	45.2	57	1
44 46 48 50 52 54 56 58	50.8	49.9	14		54 56 58	41.8	40.5	28 32		54 56 58	51.3 51.8	52.7 52.8	II I2		54 56 58	42.0 42.1	45.2	57 58 59 58	
58	50.0	49.2	15		24 00	39.9 38.8	36.8	34	-3.6	50	51.0	32.0	12		20 00	42.9	43.9	58	

Correction to local mean time is — 1.5s. 90° torsion = 19.'62. Torsion head at oh oom read 65° and at 24h 12m read 67°. Observer—R. R. T.

Correction to local mean time is +2s. 90° torsion = 16.'92. Torsion head at 15h 38m read 69° and at 20h 21m read 83°. Observer—J. V.

Chr'r	Sca read			Temp.	Chr'r	Sca read	ale ings	East decli-	Temp.	Chr'r		ale lings	East decli-	Temp.	Chr'r		ale lings	East decli- nation	Temp
time	Left	Right	nation	C.	time	Left	Right	nation	C.	time	Left	Right	nation	C.	time	Left	Right	nation	C.
h m	d	d 56.2	0 /	•	h m	d	d 28.5	° ,	-4.6	h m	d	d	0 /	-6.o	h m 2 00	d	d	0 /	0
02	59.0 56.1	49.3	21 41	-4.3	22 00 02	32.0 32.7	29.0	22 I2 II	-4.0	0 00*	30.1	34.2 26.9	22 08 21 55	-0.0	02	74.9 73.2	75·3 73.6	23 I5 I2	-5.9
04 06	42.I 42.8	42.0 41.4	22 06 06		04 06	35.2	ost 31.0	07		04 06	21.1	24.6 24.2	53 53		04 06	72.2 69.0	73.9 71.2	12 07	
08 10	42.0	39.8 42.9	08		08 10	35.8 24.8	29.9 15.2	08 28		08	25.0 23.5	27.3 26.2	53 58 56		08	66.7	69.2 70.0	04 05	
12	47.8	43.0	22 00		12*	25.8	17.0	48	. 0	12	24.8	27.3	58		12	67.3	69.9	05	
14 16	54.0 51.0	47.0 40.0	2I 52 22 00	-4. I	14 16*	19.1 52.6	10.0	22 59 23 12	-4.8	14 16	24.8 25.0	26.9 26.9	58 21 58	-6.0	14 16	69.1	71.I 72.7	07 09	-5.9
18 20	47.0 45.3	14.7	23 22 I5		18 20	53·4 42·3	43.2 36.7	23 23		18	27.8	29.4 31.8	22 02 06		18 20	71.0 71.8	73·4 74·I	10 12	
22*	53.1	37.3	21 02		22	67.1	57.9	22 47		20 22	31.I 34.I	36.2	12		22	70.5	73.0	10	
24* 26	55.0 75.0	36.0 55.2	52 21		24* 26	54.1 61.9	43·3 52.9	22 06		24 26	37·9 42.I	39.6 43.8	18 24		24 26	69.2	71.8	08 07	
28 30*	75·3 53·0	57.2 34.8	19 <b>0</b> 7	-4.0	28 30	66.0	56.8 61.0	21 59 53	-5.0	28 30	40.8	42.I	22 27	-6.o	28 30	70.1 71.0	72.4 <b>73.0</b>	09 <b>IO</b>	-5·7
32	51.4	37.3	<b>o</b> 6	-4,.0	32	68.0	59.0	21 56	3.0	32	44.1	45·4 45·2	27	-0.0	32	70.8	72.3	09	3.7
34 36	39.0 27.1	24.I 12.0	20 45		34 36	62.0	54.0 52.8	22 04 07		34 36 38	53.8 53.3	54.8 54.1	42 41		34 36	70.0 70.1	71.9 71.2	08	
38 40	28.0 19.9	12.2 7.0	44 55		38 40	58.0 56.1	51.0 49.5	10 13		38	53.0	54.1 66.0	41 60		38 40	72.2 74.1	73.9 75.2	12 14	
42	20.1	8.0	54		42	55.2	49.4	14		40 42	65.0 59.3	62.3	53 18		42	75.2	76.3	16	
44 46	21.1	9.7 8.7	52 53	-4.0	44 46	52.9 47.1	47.9 42.0	16 26	-5.1	44 46 48	36.2	41.5 48.0	30	-6.0	44 46*3	76.8 52.6	77.9 58.4	18 21	-5.7
48	20.5	9.8	52		48	44.6	40.0	29		48	44.7 48.0	53.1	<b>3</b> 6		48	53.I 55.8	57.8 58.9	20	
50 52	20.0	9.9 10.5	52 52		50 52	46.2 48.8	41.7 45.1	27 22		50 52	43.I 48.I	48.8 52.1	<b>29</b> 36		50 52	56.9	60.7	23 26	
54 56	19.0	9.0	53		54 56	50.2 48.7	46.0 44.2	20 23		54 56 58	47.0 46.7	52.9 53.8	35 36		54 56	59.2 57.8	63.0	29 27	
58	15.0	7.4	55 21 58		58	48.1	44.2	23 25		58	54.0	61.7	48 50	-6.o	58 3 00	56.0	59 3	24 22	-5.5
00	43.2 43.1	32.5 31.5	22 00 0I	-4.2	23 00 02	<b>46.7</b> 43.0	<b>43.0</b> 41.1	30	-5.3	I 00 02	56.2	63.3	22 53	-0.0	02	54·3 54·I	57.9 57.2	21	3.3
04 <b>o</b> 6	42.0 39.8	31.1 28.8	02 06		04 06	43.8 45.2	40.9 42.9	29 26		04 06	66.9	72.2 71.9	23 07 23 06		04 06	51.9 50.1	55.0 53.3	17 15	
o8.	37.2	28.2	08		08	46.3 45.8	44.8	24 25		08	61.6 58.0	66.7 61.5	22 58		08 10	50.3 49.9	53·4 52.1	15 14	
IC) I2! .	31.0 36.1	27.3 27.0	14		10 12	44.2	44.2 42.9	27		10 12	57.I	59.9	51 49		12	47.8	50.I	10	
14 16	35.0 36.2	27.0 28.9	08	-4.3	14 16	43.2	42.I 42.I	29 29	-5.5	14 16	56.0	58.1 58.7	47 47	<i>-</i> 6.0	14 16	47.2 45.8	49.8 48.1	10 07	-5.5
18	34.9	28.0	10		18	44.0	43.5	27 26		18	58.5	61.4 62.0	51		18 20	44.9 43.9	47.0 46.1	05 04	
20 22	33.9	27.I 27.I	12 12		20 22	44.7	43.7 41.9	29	ļ	20 22	59·3 58·3	61.2	52 51		22	42.I	44.4	23 OI	
24 26	32.0	26.3 26.0	14		24 26	40.5 39.9	39.1 38.3	33 34		24 26	62.2	62.7	54 56		24 26	40.3 39.8		22 58 56	
28	30.3	26.1	15		28	40.0 40.2	38.9 38.9	34 34	-5.7	28	63.6	64.3 65.9 68.1	22 59	-6.o	28 30	40.I 40.I		58 58 58	-5.4
30 32	33.0 32.2	29.5 29.0	11	-4.4	30 32	39.3	38.4	35	3.7	30 32	69.5	71.8	23 02 08	70.0	32	40.I	41.9	58	3.4
34 36	33.0	30.0	IO		34 36	37·7 37.0	37.0 36.2 36.8	37 38		34 36	73.2	75.0 75.9	14		34 36	41.I 42.0		22 59 23 00	
38	32.3	29.3 29.8	II		38	37.0 37.6 37.0	36.8 36.6	37		38 40	74.2 74.2 73.0	70.0	15		38	4I.I 4I.3	42.6	22 59	
40 42	33.2 35.5	31.0 32.9	<b>0</b> 9		40 42	37.0 37.8	36.2	37 38 38		42	72.9	74.5 74.0	13		40 42	40.2	41.5	58	
44.9	34.0	30.2	<b>0</b> 9	-4.5	44 45	37.8 37.0	37.0 36.0	37 38	-5.8	44 46 48	73·3 71·2	74.8 72.9	13	-6.o	44 46 48	39.2 40.2		59 58 56 57	-5.3
46 48	32.0	28.9	12		48	35.0	34.0	41		48	68.9	70.I	06		48	41.3	42.4	59	
50 52	33.9 32.1	30.8	09		50 52	35.1 35.8	34.I 34.2	4I 4I		50 52		67.0	02 01		50 52	41.1	42.5	59 22 59	
54	30.9	29.0 26.8	12		54 56 . 58	38.2 37.1	34·9 40.0	38 35		54 56 58	68.1	69.0 72.8	. 05 10		52 54 56 58	42.7 42.3	43.6	23 01	1 .
54 56 58	30.0	28.1	15 12		. 58 24 00	40.3	37.8 37.0	34 36	-5.9	58	75.2	76.2	16		58	42.5	43.7	01	

Correction to local mean time is — 4s. 90° torsion = 18.'24. Torsion head at 19h 35m read 83° and at 24h 21m read 89°. Observer—J. V.

Observer-R. R. T.

	. Sc		East			Sc	ale	East			Sc	ale	East			Sc	ale	East	
hr'r ime	read Left	•	decli- nation	Temp. C.	Chr'r time	read	ings Right	decli- nation	Temp. C.	Chr'r time	read	dings Right	decli- nation	Temp. C.	Chr'r time	read		decli- nation	Tem: C.
m	d	d	• ,	0	h m	d	ď	` . ,	9	h m	d	d	· ,		h m	d	d	0 /	•
00	62.9 64.2	61.6 63.1	23 04 02	-5.2	6 00	71.8	70.3 71.1	22 50 49	-4.0	8 00	55.1 50.8	55·3 52.8	22 54 22 48	-5.3	IO 00 02	37·7 33·3	42.3 38.0	22 30 23	-3.2
04	65.1	63.8	OI		04	72.6	71.2	49		02 04	59.8	61.1	23 02		04	32.I	35.9	20	
06 08	64.0 63.1	63.0	02 04		06 08	71.5 71.2	70.1 70.2	51 51		06	57.6	61.7	01 80		06 08	29.0	33.9 48.0	16 38	
10	64.2	62.9	02		10	72.3	71.0	50		08	62.2	66.6 71.0	14		10	43.8	47.8	39	
12	65.9 65.8	64.6	00		12	72.7	71.1	49	2.0	12	69.2	71.2	17		12	39.I	43.2	32	
14 16	65.1	64.1 64.1	00	-5.1	14 16	72.9	71.3	49 48	-3.9	14 16	73.6 74.7	75.8 78.0	24 27	÷5.0	14 16	43.2 37.6	44.0 39.1	35 27	-3.0
18	64.3	63.6	02		18	72.1	71.7	49		18	73.5	77.3	25		18	35.2	37.0	24	
20 22	64.8	64.0 65.8	23 OI 22 58		20 22	72.0 72.1	71.5 71.6	49 49		20 22	56.3	69.8 61.1	23 I3 22 59		20 22	39.7 38.1	40.9	30	
24 26	67.5	67.2	56		24	72.0	71.2	50		24 26	56.0	57.3	56		24 26	36.6	38.0	29 26	
20 28	68.1 67.3	67.8 66.9	<b>5</b> 5		26 28	72.0	71.1 71.8	50		26 28	43.1	47·9 47·3	38		26 28	33.9	35. I 34.8	21 19	
30	67.9	67.7	57 56	-5.o	30	72.9	72.1	49 48 48	-3.9	30	44.4	53.4	39 48	-4.9	30	4I.I	43.0	33	-2.0
32	68.8	68.3 68.9	54 53		32.2	72.8 73.1	71.8 72.1	48 48		32	52.8 48.1	58.6 52.8	54 46		32	35.0 33.I	36.9 34.8	23 20	
34 36 38	69.1	68.2	53 54		34 36	74.0	73.I	47		34 36 38	42.0	48.0	38		34 36 38	32.9	34.9	20	
38	70.2	69.3	53		38	73.9	73.I 72.8	47			43.2	49.0	39 48		38	36.3	38.3	26	
40 42	72.0	71.1 71.5	50 49		40 42	73·3 74·1	72.2	47 47		40 42	48.7	54.0 46.3	37		40 42	29. I 33. I	31.8 33.9	15 20	
44	72.3	71.4	49	-5.o	44	75.0	73.I	46	-4.0	44 46	34.3	37.6	23 18	-4.8	44	29.9	31.1	15	-2.
46 48	72.3 73.1	71.5 72.2	49 48		46 48	75.0	73.I 72.9	46 47		46 48	30.8	33.6 45.9			44 46 48 50	28.3	31.2 32.0	14 15	
50	70.9	69.2	52		50	74.8	73.1	46		50	40.3 48.8		35 46		50	28.8	32.5	15	
52	72.0	71.0 69.8	50 52		52 54	74.1	72.2 72.1	47 48		52	44.9 44.1	47·7 46.9	38		52 54 56	28.9	32.0 26.3	15	
54 56 58	71.9	71.1	50		56	74.8	73.1	46		54 56	38.9	42.3	31		56	23.3	28.1	07	
	73.1	72.3	48 48		58 7 00	74.4	72.7 72.9	47	-3.8	58 9 00	39.1	42.1 38.0	31 25		58 11 00	24.7	29.0 34.8	18	-2.
00	73.0	71.6 71.2	49	-4.9	02	74.9	71.7	46 48	3.0	02	35·4 33·I	36.9	22	-4.4	02	33.8	37.8	23 26	1 2.
04	73.0	71.3	49 48 48 48		04 06	73.7	71.4	48		04 06	29.7	33.2	16		04 06	35.8	39.0		
06 08	73. I 73.3	71.8 72.1	48		08	72.9	71.1	49 47		08	29.5 34.1	32.I 35.4	15 22	120	08	40.5	44.I 46.I	33 37	
IO	73.3	72.2	48		10	73.0	72.0	48		10	36.1	39.0	26		10	38.9	40.9	30 28	
12 14	73·7 73·3	72.6 72.5	47 48	-4.8	12 14	72.8 74.1	71.7 73.5	49 46	-3.3	12 14	39.9	42.7 39.8	32 28	-4.2	I2 I4	38.1	40.3	20	-2.
16	71.9	71.2	50	4.5	16	74.1	73.5 73.8	46		16	35.9	39.2	26		16	34.3	38.6	24 16	
18	74.0	72.2	47		18 20	74.2 74.3	73.8 73.3	46 46		18 20	36.1	39.2 45.7	26 35	1.	18 20	29.9 30.8	33.2 34.1	18	
20 22	72.9 73.3	71.I 72.I	49 48		22	74.9	74.I	45		22	46.9	50.I	43		22	24.5	28.0	22 08	
24	73.8	72.2	47		24	74.3	73.8	46		24 26	44.9 41.8		39		24 26	19.1	22.0 15.9	2I 59 50	
26 28	72.3 71.5	71.I 70.2	49 51		26 28	75.0 75.6	73.9 74.1	45 44		28	36.1	44·7 37·9	35 25		28	12.3	14.8	48	
30	70.9	69.7	52	-4.7	30	76.0	74.0	44	-2.9	30	33.2	36.1	21	-4.0	30	17.3	19.9	21 56	-2
32	71.6	70.3 68.9	51 53		32	75.2 75.6	73.9 74.0	45 44		32 34	35.0 32.9	37.0 34.2	24		32 34.5	29.I 41.8	31.0 42.5	22 14	
34 36		70.0	51		36	75.0	73.9	45		34 36	27.0	28. I	10		34·5	42.I	42.8	34	
38	71.3	70.I	51		38 40	75.8 76.0	73·5 74·7	45 44		38 40	27.0 36.7	29.6 37.2	25	].	38 40	43.2 47.2	43.9 48.1	35 42	
40 42		71.1 71.2	49 49		42	74.0	72.3	47		42	48.1	48.7	43		42	50.3	51.2	, 47	
44 46	72.3	71.1	49	-4.3	44	74.9	73.I	46 45	-2.2	44 46	49.I	51.7	46	-3.8	44 46 48	53.3	54.0 47.8	51 41	
46 48		69.9 70.3	52 50		46 48	74.9 73.4	74.0 73.0	45 47		48	47.2 40.8	49.7 43.1	43 33		48	37	.2b	25	
50		70.8	50		50	72.7	71.5	49		50.6	31.4	32.0	17		50	21.1	22.9	22 02	
52	70.8	69.6	52		52 54	75.0 74.7	74·4 73.8	45 46		52 54	24.6	26.2 21.8	07 00		52 54	19.8		21 59 56	
50 52 54 56 58		70.3 70.2	51 51		54 56 58	74.9	74.I	45		54 56	30.1	32.7	16		54 56 58	16.0	17.1	2I 53 22 08	
58		70.7	50		58 8 00	76.3 73.7	75.8	43 47	-1.9	58	41.1	47.1	36		58 12 00		26.8 .5a	22 08 13	

Correction to local mean time is — 22s. 90° torsion = 18.'60. Torsion head at oh oom read 90° and at 8h 20m read 85°. Observer—R. R. T.

Correction to local mean time is — 41.5s. 90° torsion = 19.'62. Torsion head at 7h 40m read 85° and at 12h 20m read 91°. Observer—R. R. T.

			<del></del>		1			1	·				ſ		1			1	,
Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp
h m	d	d	0 ,	٥	h m	d	d	· ,	•	h m	ď	d	0 ,	6	h m	d	đ	• ,	•
2 00* 02	48.8 48.9	47.9 46.9	23 29 29	-2.4	14 00 02	59.6 56.9	57·9 54·7	22 40 45	-I.7	0 00	39.8 39.0	40.0 39.9	22 <b>27</b> <b>2</b> 6	-4.6	2 00 02	54.9 55.0	55.0 55.0	22 50 50	-4.8
04 06	49.5	47.2	29 28		04 06	59.7 57.8	57.0 55.1	4I 44		04 06	38.2	39.1	25		04 06	53.0 52.0	53·3 52.6	47	
80	49.2	47.I 47.2	29		08	57.9	55.4	44		08.3	39.1	39.2 40.0	25 26		o8	52.0	53.0	46 46	
10 12	46.4	43·5 42.0	34 36 28		10 12	57·3 58.7	55.0 55.9	44 42 38		I0 I2	39.I 39.I	40.0 39.9	26 26		10 12	53·5 55·2	54·4 55.8	49 51	
14 16	50.3	47·7 45·2	28 32	-2.0	14 16	61.0	58.8 59.2	38	-1.7	14 16	39·5 39·3	39.8 40.0	26 26	-4.9	14 16	55.9 58.0	59.0 59.1	54 56 58 56 51 48 48	-4.8
18	52.0	49.8	24		18	66.0	62.1	32 31		18	38.9	39.1	25		18	59.2 58.1	60.2 59.0	58	
20 22	50.9	49.0 49.1	25 26		20 22	66.7	60.8	34		20 22	38.1 37.9	38.8 38.0	24 24		22	55.0	56.3	51	
<b>24</b> <b>2</b> 6	51.9 55.0	48.9 53.1	25 20		24 26	65.0 66.0	61.9 62.0	33 32		24 26	37.0 36.1	37.2 36.3	22 2I		24 26	52.9 53.0	53.8 54.0	48	
28 30	59.0 62.1	58.2 61.2	12 08	-2.0	28 30	67.9 70.0	63.7 66.2	29 26	-1.8	28 30	34.8 34.0	35.I 34.3	19	-5.0	28 30	53.7 54.9	54.8 56.0	49 51	<b>-4.8</b>
32	62.9	62.3	06	2.0	32	70.1	66.0	26		32	33.8	34.2	17	3.0	32	55.1	56.5	52	4.0
34 36	62.7	62.1 62.9	<b>o</b> 6		34 36	71.5 74.2	68.0 70.6	23 19		34 36 38	32.7 32.8	33.0 33.0	16 16		34 36	55.9 56.5	57.1 58.0	53 54	
38 40	59.9 61.0	59.2 60.5	09		38 40	72.0 60.1	68.3 65.8	22 27		38 40	34.0 35.0	34.8 35.8	18		38 40	56.9	58.2 58.8	54 55	
42	65.8 65.8	64.9 64.3	02 23 02	-2.0	42	65.9 62.1		32 37	-1.9	42	34.8	35·7 33.8	19	-5.0	42 44	57.6 56.7	58.8 58.0	55 54	-4.7
44 46 48	67.4	66.1	22 60	-2.0	44 46	60.4	58. I	39		44 46	33.0	34.I	17	5.0	46	56.0	57.3	53	4.7
50	68.2 70.5	67.2 68.8	58 55		48 50	60.9 63.1	58.1 62.0	39 34		48 50	35.8 36.9	36.5 37.9	2I 23		48 50	55.2 54.2	56.2 55.0	52 50	
52 54	69.2 68.0	67.9 66.7	57 59		52 54	62.9	61.1 <b>64.</b> 6	35 30		52 54	38.0	39.0 40.7	24 26		52 54	54·3 55·2	55.2 56.0	50 51	
56	67.9	67.0	22 59		54 56 58	75.8 76.4	73.3	15 14		56 58	42.0	43.2	31		56 58	55.2 55.0	56.0 55.5	51 51	
58 3 00	65.3	59·5 64·0	23 10	-1.9	15 00	72.7	74.3 71.3	19	-2.0	1 00	43.0 45.2	44.9 46.8	33 36	-5.0	3 00	55.1	55.9	v) 51	-4.7
02 04	64.9	63.8 63.5	03		02 04	78.0 76.4	77.0 75.1	11		02 <b>0</b> 4	42.3 47.9	46.2 49.0	33 40		02 04	56.0 58.0	56.1 58.2	55	
o6 o8	65.2 66.0	64.2 65.2	03 23 02		06* 08.5	53.I 52.2	48.7 48.6	I2 I2		06 08	48.9 50.0	50.5 51.2	42 43		06 08	57.8 57.0	58.0 57.3	55 54	
10	68.3	67.5	22 58		I0 I2	52.8 56.9	48.2 51.5	12 06		10 12	50.8	52.I 53.0	45		10 12	57.8 56.0	58.1 56.8	54 55 52	
12 14	70.2	69.2 68.9	55 56 58 58	-1.9	14	59.8	53.0	03	-2.0	14	51.9	53.3	45 46 46 46	-5.0	14	56.7	57.2	53	-4.7
16 18	68.8	67.5 67.1	58 58		16 18	56.8 55.2	51.4 50.0	22 09		16 18	51.8 50.8	52.9 51.9	45		18 16	56.7 56.0	57.2 56.9	53 52	
20 22	70.I 69.7	69.1 67.9	55 56		20 22	59.2	57·7 54·5	2I 57 22 02		20 22	52.8 52.4	53.9 54.0	45 48 48		20 22	55·9 55·9	57.0 56.8	52 52	
24	67.2	66.3	22 60		24 26	61.9	57.0	21 58 21 58		24 26	53·3 51.1	54.9 52.8	49 46		24 26	55.3	56.4	52 52	
26 28	66.8	62.1 65.2 65.3	23 06 01		28	61.9 59.9 61.8 64.8	55.I 57.9	22 OI	2.0	28	48.2	49.8	41		28	55.5 56.0	57.0	53	1.
30 32	66.1	65.3 66.2	1 00	1	30 32	64.8	57.9	21 57 53 21 58	-2.0	30 32	49.4 49.0	49.9 49.3	42 41	-4.9	30 32	55.9 55.6	56.9 56.9	52 52 51	-4.7
34 36 38	65.2	63.7 66.5	23 03		34 36 38	02.3	57.2	2I 58 22 02		34 36	49.1	49.2 50.0	41 42		34 36	55.2	56. I	51 50	
38	68.6	66.9	58		38 40	59.5 69.0 64.9	54.0 64.7 59.9	21 46 53		38 40	50.2 52.8	51.0 53.3	43 47		38 40	54.7 53.8 53.2	55.0 54.3	49	
40 42	74.7 75.1	72.9 73.5	48		42	63.1 62.8	58.2	56 56		42	56.0	57.0	53		42	53.2	54.3	49 48 48 47	١.,
44	74.6 75.0	73.I 73.0	23 03 22 58 58 48 48 48 48	-1.8	44 46 48	63.0	59.2	55	-2.0	44 46 48	57.1 57.2	59.0 58.9	55 55	-4.9	44 46	52.5 52.2		47	
48	77.9 53.3	76.6 49.6	43		48 50	61.2	5Q. I	2I 57		48 50	57·3 57·5 56.0	58.0 58.9	54 55		48 50	52.3 53.0		47 48	
52	53·3 53·9 54·8	51.7	50 48		50 52 54 56	60.9 58.7	58.9 56.2	22 OI 00		52	56.0 55.7	56.1 56.1	52		52	52.0	53.I	46 46	
46 48 50* 52 54 56 58	54.8	52.5 54.7	48 45		54 56	58.4	56.7 56.5 54.8 57.3	10		50 52 54 56 58	55.7 55.3 54.9	55.8	52 51		54 56	52.1 53.9 55.7	53.2 55.0	49	
58	56.9 59.9	54.7 58.8	39		58 16 00	56.9	54.8 57.3	04	-2.0	58	54.9	55.1	50		58	55.7	56.9	52	

Correction to local mean time is — Im 19.5s. 90° torsion = 18.60. Torsion head at 11h 35m read 93° and at 16h 15m read 96°.

Observer-R. R. T.

Observer-J. V.

hr'r ime		ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Гетр. С.	Chr'r time	read	ale lings Right	East decli- nation	Temi C.
m	đ	d	• ,	•	h m	d	d	0 ,	•	h m	d	d	0 /	•	h m	d	d	0 /	•
00	55.6 56.0	56.9 57.1	22 52 53	-4.4	6 00	57.8 58.9	58.0 59.0	22 55 22 56	-3.4	8 00	54·5 48.3	55.6 4 <b>9.7</b>	22 50 41	-3.0	IO 00 02	50.8 50.6	51.1 50.8	22 44 44	-2.6
04	56.5	57.8	54		04	63.2	63.8	23 04		04	53.3	56.7	22 50		04	53.0	53.6	44 48	
06 08	56.5 57.0	57.8 58.0	54 54		o6 o8	57·5 57·7	58.2 58.0	22 55 55		06 08	62.6	63.3	23 OI 23 O5		06 08	55.0 53.1	55·3 53.6	51 48	
10	56.0	57. I	53		10	58.9	59.5	22 57	1	10	57.I	59.6	22 56		IO	53.2	53.6	48 48	
12 14	56.1 57.2	57.2 58.0	53 54	-4.3	I2 I4	61.0 59.2	61.2 59.9	23 00 22 58	-3.3	I2 I4	56.8	59.0 62.1	22 55 23 00	-10	12 14	53·5 55·6	53.6 56.0	48 52	-2.6
16	56.9	57.2	54	4.3	16	62.0	63.2	23 02	3.3	16	60.4	62.6	23 OI	-3.0	16	54.0	54.5	49	2.0
18	56.0	56.1	52		18	63.9 63.8	64.9	05	<u>'</u>	18	59.6	61.6	22 59	1	18	54.5	55.0	50	
20 22	54.9 54.9	54.9 55.1	50 50		20 22	62.0	64.9 63.8	23 03		20 22	57.0 55.8	58.3 57.5	54 53		20 22	55.6 55.2	56.0 55.6	52 51	
24	55.3	56.0	51		24	58.8	60. <b>0</b>	22 57		24	51.9	54.6	48		24 26	52.3	52.6	46	
26 28	55.2 55.9	56.0 56.7	51 52		26 28	57·4 61.0	58.2 62.0	22 55 23 OI		26 28	50.3	52.4 59.4	45 22 56		26 28	50.5	51.9 50.9	45 44	
30	58.2	59.0	52 56	-4.2	30	56.1	57.1	22 53	-3.2	30	61.0	62.6	23 01	-3.0	30	50.2	50.6	43	-2.6
32 34	59.0 57.1	59.2 57.5	57 54		32	55.9 54.2	56.3 55.0	52 50		32	63.3 55.8	64.8 57.6	23 04 22 53		32	50.1	51.3 50.3	44	
36	56.0	56.2	52		34 36 38	53.2	54.9	49		34 36	58.0	59.7	22 53 56		34 36	47.7	48.3	43 39	
38	56.0	56.2	52		38 40	58.7 58.0	59.2 58.9	56 56		38	52.0	53.6	47		38	46.9	47.8	39 38	
40 42	57.0 58.0	57.8 58.2	54 55 55		40	60.2	60.9	22 59		40 42	52.6	54.1 57.8	48 54	ļ	40 42	48.0	48.3 49.8	40 42\	
44	57.7	<b>58.0</b>	55	-4.0	44 46	60.9	62.3	23 01	-3.2	44 46	51.0	53.4	46	-3.0	44	51.0	51.3	44	-2.5
46 48	55.8 55.7	56.1 56.4	52 52		40 48	61.8	62.1 63.0	01 02		46 48	50.0 57.3	50.6 58.3	43 <b>5</b> 5		46 48	49.2	49.9 46.8	42 37	
50	56.6	57.4	54 56		51	64.0	65.0	05		50	55.0	56.5	52		50	45.0	45.0	35	
52	57·9 57·2	59.0 58.1	56 54		52.4 54	61.9 62.0	62.3	02		52 54·3	52.6 57.6	54.2 59.0	48 56		52 54	43·5 47.8	43.6 48.1	32 39	
54 56	56.1	57.2	53		56	62.9	63.9	04		56	56.0	57.I	53		56	47.6	47.8	39	
58	54.0	55.0	50 48 52		58	62.7	63.8 61.4	03	-3.1	58	55.0	56.0	51		58	48.0	48.2	40	١.,
)O )2	53.0 55.7	54·3 56·9	40 52	-3.9	7 00 02	60.7 61.2	61.7	13 00	-3.1	9 00	55.4	57.8 .3b	53 54	-2.9	II 00 02	47.8 47.5	48.2 47.5	39 39	-2.5
4	56.3	57.9	54		04	59.8	60.7	1:2 58		04	53.6	53.6	22 48		04	48.0	48.3	40	
06 08	54.5	55.9	51 48 48 48 46		06 08	62.0 61.2	63.0 62.2	23 02 23 01		06 08	61.0	61.5 62.6	23 00		06 08	46.6 45.8	46.6 46.2	37 36	
.O	53.2 53.2	54·5 54·4	48		10	57.0	58.9	22 56		10	63.4	63.6	23 04		10	45.8	46.2	36	
2	52.8	54.0	48		12	57.8 58.0	58.2 58.5	55 55	-3.0	12	60.3	61.0	22 59	-2.8	12	43.6	44.1 44.8	33	
4 6	51.3 55.8	53.0 56.2	52	-3.7	14 16	57.2	58.0	54	3.0	14 16	57.0 55.6	57.2 55.8	54 52	-2.0	14 16	44.5	46.3	34 36	-2.5
8	55.7	57.0	52		18	57.0	57.1	54		18	56.1	56.5	52		18	46.3	47.3	38	
2	52.8 53.9	53.8 55.3	48 50		20 22	54 · 3 54 · 8	55.1 55.2	50 50		20 22	51.8	52.0 51.6	46 45		20 22	46.I 45.4	46.9 46.0	37 36	
4	56.9	57.7	54		24	53.8	54.8	49		24	52.3	52.8	46		24	44.8	45.6	35	1
26	56.0	50.3	52		26 28	52.2 50.5	52.9 51.5	46		26 28	49.9 51.5	50.3 51.8	43		26 28	45·3 44·5	46.0 45.3	36	
8	56.9 57.4	57·3	54 54	-3.6	30	50.3	51.1	44 48	-3.0	30	50.9	51.5	45	-2.7	30	42.6	43.6	34	-2.
2	56.4	57.9 56.6	53		32	50.3 52.8 54.8	54.0	48 50		32	50.3 50.6	50.7	43		30 32	42.0 38.5	42.6	30	
34	57.0 59.7	57.8 60.1	54 EX		34 36 38	54.0 52.1	55.0 52.9	46		34 36	48.6	51.5 49.5	44		34 36	36.3	39.6 37.0	25 21	
30 32 34 36 38 40	58.5	59. I	56		38	50.4 50.8	52.0	44		38	48.3	48.9	40		38	40	.30	27	
40	57.I	57.8	54		40 42	50.8 52.5	52.I 54.I	45 48		40	49.8	50.2 50.2	42 42		40	41.5 37.8	41.9 38.5	30	
42	56.0 56.8	56.0 57.0	54 54 53 54 58 56 54 52 53 54 56	-3.5	44	51.7	53.8	47 46	-3.0	44	48. I	48.6	40 38	-2.6	42 44	35.9	37.5	24 22	-2.
6	57.0	<i>57</i> · <i>7</i>	54		44 46	51.0	52.9	46 45		46	47.0	47.5			44 46 48	37.0	38.5	24 26	
18	58.2	59.2	56 54		48 50	50.9 50.8	52.3 $52.8$	45		50	40.4	50.I 50.0	42 42		48 50	38.8	39.8 42.5	30	
50	57·5 57·0	57.8 57.4	54 54		52.5	49.3	50.5	42		52	48.9 51.8	49.1	41		52	42.4	43.3	31	
42 44 46 48 50 52 54 56	60.4	60.9	54 59		54 56 58	50.3 46.0	51.8 48.0	44 38		42 44 46 48 50 52 54 56.3	50.0	52.6 50.2	46 43		54 56 58	42.1		31 28	
50 -0	57.8 55.0	58.0 55.5	55 51		58	45.1	48.2	37		58	49.1	49.6	41		58	39.0		26	

Observers—J. V. and W. J. P., who alternated from 7h 56m to Observer—W. J. P. 8h o6m.

Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Гетр. С.	Chr'r time	геас	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Tem
h m	d	d	0 ,		h m	d	d	0 ,	•	h m	d	d	. ,	•	h m	ď	d	. ,	
2 00 02	40.5	41.0 43.1	22 28 31	-2.5	I4 00 02	35.2 36.2	36.0 36.8	22 20	-2.8	16 <b>00</b>	32.3	32.5	22 15	-3.6	18 00	25.0	26.4	22 04	-3.9
04	42.3	42.8	31		04	33.7	34.4	21		02 04	34.0 33.8	34.0 34.0	17		02 04	24.7 24.5	25.9 26.0	04 04	
06 08	43.0	43.6	32 30		o6 o8	35.3	36.1 31.6	20		<b>o</b> 6	32.3	32.5	15		o6 o8	24.6	25.9	04	
10	42.5	42.5 42.8	31		10	30.4	32.5	13		08	32.3	32.3 31.9	15 14		10	23.9 23.1	25.I 24.3	02 01	
12 14	40.8	40.8 41.6	28 29	-2.5	12 14	28.8 30.6	29.3 31.0	I0 I2	-2.4	12	33.5	34.0	17 18	-3.8	12 14	23.2	24.4	10	
16	41.3	41.9	29	2.3	16	30.3	31.0	12	-2.4	14 16	34·3 33·9	34.6 34.2	17	-3.6	16	23.3	24.8	02	-3.9
18 20	39.9 39.5	40.5	27 26		18 20	34·5 36·1	34.9 36.3	18		18	33.5	34.2	17		18 20	.23.2	24.I	0I	
22	36.6	36.8	22		22	33.3	34.0	17		20 22	33.6 33.6	33.9 34.0	17		22	23.2	24.I 24.I	OI	
24 26	35·5 34·6	35.6 35.0	20 19		24 26	35.0 32.8	35.3	19 16		24 26	33.3	33.7	17		24 26	23.8 24.1	24.2	02 02	
28	33.6	33.8	17		28	33.0	33.6 33.9	16		28	31.0	31.5 32.0	13 14 18		28	23.3	23.9	OI	
<b>30</b> 32	34·3 36.3	34·5 36.6	18	-2.5	30 32	34·3 35·3	34·5 35·5	18	-3.0	30 32	34.3	34.6	18	-3.8	30 32	23.I 23.9	23.5 24. I	0I 02	-3.9
34	39.7	40.3	27		34 36	34.4	34.4	18		34 36	34.0 33.3	34·3 33·5	16		34 36	24.0	24.3	02	
36 38	43.0 43.6	43·5 44.0	32 33		36 38	32.7 32.6	33·3 33·0	16 16		36 38	32.7 34.8	33.0 35.5	16		36 38	24.5 24.2	24.9 24.9	03 02	
40	43.3	43.6	32	'	40	32.0	32.6	15		40	36.3	36.5	21		40	23.6	24.1	· OI	
42 44	41.5 40.0	42.0	30 27	-2.5	42 44	31.9	32.I 32.2	14 14	-3.0	42	35·9 34·9	36.3 35.3	2I IQ	-3.9	42 44	24.I 24.I	25.0 25.1	02 03	-3.9
44 46 48	37.4	37.7	23	- ' 5	46	32.5	33.0	15	0.4	44 46	33.9	34.1	17	3-9	46	24.6	25.7	03	0.9
48 50	37·7 38.6	37.9 38.6	23 25		48 50	32.5 32.0	33.0 32.5	15 14		48 50	32.2	32.6 32.8	15 15		48 50	24.8 25.9	25.8 26.8	04 05	
52	38.0	38.5	24		52	32.0	32.3	14		52	30.5	30.8	12		52	27.5	28.8	05 08	
54 56	36.8 35.8	37.2 36.1	22 20		54 56	31.3	31.6	13 14		54 56	28.3 28.0	28.6 28.3	08 08		54 56	29.6 29.6	30.9 30.9	II	
58	35.9	35.9	20		58	31.3	32.I	14	,	58	28.3	28.5	08		58	30.1	31.8	12	
00 02	33.8 32.6	34.0 32.6	17 15	-2.6	15 00 02	32.8 33.8	33.0 34.1	16 17	-3.2	17 00	27.0 27.2	27.0 27.2	06 07	-4.0	19 00	30.9	32.I 33.I	14 15	-3.9
04	33.0	33.2	16		04	31.8	31.8	14		04	25.7	26.0	04		04	31.2	33.3	14	
06 08	31.8	31.8 33.5	14 16		06 08	30.6	31.0 29.7	12 10		06 08	25.3	25.3 24.6	04 02		06 08	31.3	33.0 33.7	14 16	
10	28.5	28.8	<b>0</b> 9		10	29.0	30.5	II		10	24.5	24.8	03		I0 I2	32.4	33.7	· 16	
I2 I4	33·5 42.8	33.8 43.0	17 31	-2.5	12 14	30.8	31.6 32.6	13 15	-3.3	12 14	24.7 26.1	24.7 26.3	03 05	-4.0	14 16	31.3 29.1	32.0 29.9	14 10	-4.0
16	38.6	39.3	25		16	32.2 31.6	33.0	15 14		16 18	26.0 26.8	26.2	05 06		16 18	30.2 30.1	31.3	12 12	
18 20	39·3 43·2	40.6 43.8	27 32		20	31.8	32.6 32.8	15		20	29.4	27.2 30.0	11		20	29.8	30.7	II	
22	44.7	45.6	35		22 24	31.9	33.0	15 16		22 24	29.4 26.0	29.9 26.6	10 05		22 24	31.8 30.7	32.2 31.1	14 12	
24 26	37.0 36.1	38.0 36.8	23 21		26	34.3	34.6	18		26	25.1	25.9	04		26	30.2	30.8	12	
28	33.8	35.4	18 26	-2.6	28 30	34·4 32.6	35.0 32.8	18	-3.3	28 30.2	27.9 27.8	28.8 28.2	08 08	-3.9	28 30	29.2 30.8	29.9 31,3	10 13	-4.0
30 32	39·3 36·4	40.0 37.0	22	2.0	32	31.0	31.4	13		32	27.5	28.1	08	3.3	32	29.0	29.9	10	
34 36	41.3	41.6 41.6	29		34 36	28.3 29.8	29.2 30.4	09 11		34 36	27.2	27.9 27.2	07 07		34 36	26.3 26.3	27.1 27.1	• <b>o</b> 6	
<b>3</b> 8	41.3 37.0	38.0	29 23		38	29.5	30.3	11		38	27.0 28.8	29.I	09		38	27.I	29.0	· 68	
40		36.6 35.6	20 19		40 42	29.8	30.2 29.6	10		40 42	29.6 31.3	30.0 31.9	11 14		40 42	27.I 25.7	29.1 27.9	08 06	
42 44	39.7	40.8	27	-2.7	44	29.4	29.9	10	-3.5	44 46	28.2	29.2	09	-3.9	44 46	25.7 26.3	28.2	07	-4.0
44 46	44	.3b	34 14		46 48	29.6 28.6	29.6 28.6	10 09		46 48	27.2 27.I	27.9 27.9	07		48	25.8 25.8	27.8 27.7	• <b>e</b> 6	
48 50	35.6	.oa 35.6	20		50	29.0	29.0	10		50	26.2	27.3	<b>o</b> 6		50	26.9	27.8	• <b>07</b> • <b>0</b> 6	
52	34.3	34.8	18		52	30.3	30.3	12 12		52 54	25.3 25.2	26.9 26.9	05 05		52 54	25.9 26.0	27.8 27.7	06	
54 56 58	33.0	34.I 32.3	17 14		54 56	30.3	29.9	11		56 58	24.8 25.0	26.3 26.5	04		54 56 58	25.9 25.1	27.7 26.3	06 04	

Observer-W. J. P.

Observers—W. J. P. and R. R. T., who alternated from 17h 14m to 17h 24m.

AA GG	nesday	, May	25, 1904				Magn	et scale	erect	Thur	sday,	May 26	5, 1904			M	agnet s	scale inv	rerted
Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	reac	ale lings Right	East decli- nation	Tem C.
h m	d	d	۵,	•	h m	đ	d	. ,	•	h m	d	d	0 ,		h m		d	. ,	. 0
02	25.8 25.8	27.0 27.1	22 05	-4.I	22 00 02	18.3	19.1 19.9	21 53	-4.9	16 00	40.2	38.1	22 19	-3.0	18 00	40.0	37.7	22 20	-3.0
04 06	26.3 25.3	27.9 26.4	07	1	04	21.1	23.0	54 58 58		02 04	40.9 41.1	38.9 39.0	18		02 04	40.4 40.I	38.3 38.0	19 19	
80	25.6	27.0	04 05 08		06 08	20.1 18.0	22.8 20.3	58 54		06 08	41.7	39.2 40.1	17 16		06 08	40.0 41.1	37.9 38.9	19 18	
I0 I2	27.3	29.0 31.1	08		10	17.1	19.3	53		10	42.0	40.0	16		10	41.0	38.8	18	
14	27.I	28.9	80	-4.2	12 14	17.3 18.2	19.3 20.1	53 54	-4.9	12 14	40.7	39.1 38.8	18	-3.0	12 14	40.9	38.5	18	-3.3
16 18	23.9 23.8	25.8 24.9	03		16 18	17.9	20.9	54 58		16	40.8	39.1	19 18	3.0	16	41.5	38.8	17	3.,
20	24. I	25.2	03		20	19.7	22.9 21.1	55 56		18 20	41.1	40.0 39.9	17		18 20	41.0	38.1 37.7	18 20	
22 24	23.0 23.I	24.7 25.0	01 02		22 24	18.8 17.3	21.8	56		22	40.9	40.0	17		22	38.8	36.5	22	
26	22.9	24.8	01		26	19.1	22.2	54 21 56		24 26	40.8	39. <b>7</b> 40.1	17		24 26	39.0 38.5	36.9 36.9	2I 2I	
28 30	24.7 26.1	26.6 28.7	04 07	-4.2	28 30	22.3 22.9	25.0 26.1	22 OI 02	-5.o	28	41.7	40.0	16 16		28	38.2	36.8	22	
32	24.6	26.7	04		32	24. I	27.8	05	3.0	30 32	41.9 42.2	40.2 40.9		-3.0	30 32	38.9 39.3	37.1 38.0	2I 20	-3.0
34 36	26.3 3I.0	29. I 33. I	08 14		34 36 38	25.6 26.8	29. I 30.2	07 09		34 36 38	40.7 39.8	39.2 38.2	18		34	37.9	37.2	22	
38	31.1	33.0	14 18		38	26.7	30.1	08		38	41.0	39.8	19 17		36 38	39.7 40.1	38.4 39.0	19 18	
40 42	33.2	35.I 35.I	17		40 42	26.9 29.1	30.I 32.0	09 12		40	41.1 41.0	39·9 39·7	17		40	4I.2 44.2	40.0	17 11	
44 46	33.1	34.0	17	-4.3	44	32.1	35.2	17	-5.0	42 44	41.0	40.0	17	-3.0	42 44 46	43.8	43.8 42.9	12	
48	31.I 30.I	33.I 32.5	14 13		46 48	35.0 35.4	37.8 38.0	2I 22		44 46 48	41.9 41.9	40.5 40.6	16 16		46 48	43·3 42.8	42.8 42.1	13 14	
50 52	27.3 27.6	29.9 29.9	09 09		50 52	34.2 33.2	36.8 35.7	20 18		50	41.3	40.0	17 16		50	41.9	41.1	15	
54	28.1	30.2	IO		54 56	31.1	33.7	15		52 54	42.I 42.I	40.I 40.0	16		52 54	42.1 42.0	41.8 41.7	15 15	
56 58	28.0 29.1	30.2 31.1	II Ú		56 58	31.I 31.I	33.8 33.9	15 15		54 56 58	44.I	42.I	13		56	41.8	41.5	15	
00	31.6	33.1	15	-4.3	23 00	29.9	32.7	13 18	-5.0	17 00	44.I 44.0	42.0 42.0	13 13	-3.0	58 19 00	42.I 42.I	39.0 41.9	17 15	-4.0
02 <b>0</b> 4	31.0 29.6	33.0 31.7	14 12		02 04	33.I 35.I	35.8 37.8	18 21		02	43.I	41.0	15	_	02	42.2	42.I	14	
06	30. I	31.9	13		06	37.6	40.3	25		04 06	42.7 43.0	40.6 41.0	15 15		04 06	43.8 43.2	43.5 43.0	12 13	
08 10	28.0 26.1	30.0 27.3	10 06		08 10	41.1 43.1	43.9 46.0	31 34		08 10	43.2 43.2	41.9 42.3	14 14		08 10	42.0 41.3	41.4 40.9	15 16	
12	28.1	29.6	09		12	45.3	48.1	37 39	-5.1	12	44.7	43.I	12		12	42.2	41.9	15	
14 16	25.5 25.7	26.6 26.6	05 05	-4.4	14 16	46.7 44.8	49.0 45.9	35	-3.1	14 16	45.2 46.9	44.I 45.9	08 08	-3.0	14 16	43.I 45.0	42.7 44.5	13 10	
18	24.3 20.8	25.I 21.8	22 03 21 58		18 20	42.3 42.0	43·9 43·3	32 31		18	47.7	46.3	07		18	46.0	45.2	00	
20 22	20.7	21.2	57		22	40.3	42.I	29		20 22	48.6 47.9	47.0 46.0	05 07		20 22	47.0 48.8	46.0 48.0	oŚ 05	
24 26	21.3 20.9	23.2	59 21 58		24 26	39.5 43.0	40.7 43.9	27 32		24	46.0	44.I	10		24	50.3	49.9	02	
28	20.4	29.0	22 03	İ	28	47.0	47.8	38		26 28	45.7 45.8	43.8 44.0	10 10		26 28	50.7 49.1	50. I 47. I	01 05	
30 32	20.0 20.0	20.8	21 56 57	-4.7	30 32	48 o 44 6	49.0 46.4	40 35 26	-5.2	30	45.5	43.9	10 11	-3.0	30	49.1 48.1 45.8	48.0	<b>0</b> 5	-4.2
34 34	19.5	2I.I	56		34	30.2	40.4 38.7			32 34 36	45.I 44.5	43.2 42.8	12		32 34	45.2	45·3 45·1	10	
34 36 38	20. I 19.0	21.8	57 55	- 1	36 38	36.9 37.8	39.7	23 25		36 38	44.0 43.0	42.0 41.0	13 15		34 36 38	47·3 48.0	47.1 48.0	06 05	
40	15.7 18.8	17.9	50		40	38.8	41.I	27 31		40	42.9	41.0	15		40	46. I	45.9	80	
42	18.8 18.1	20.5	55 54	-4.8	42 44	41.2 42.I	43.9 44.9	32	-5.3	42	42.3 41.8	40.9 40.0	15 16	-3.0	42	47·3 48.0	46.9 47.7	o6 o5	-4.2
44 46 48	16.1	17.7	50	-	44 46 48	43.6 43.8	45.4 45.8	34 34		42 44 46 48	42.I	40.6	16	5.0	44 46	49. I	48.5	04	
18	17.8 19.9	18.8	53 56 56		48 50	44.I	45.9	35		48 50	43.7 43.2	40.I 40.I	15 15		48 50	50.0 50.1	49.7 50.0	02 02	
52	20.0	20.9	56		52	42.7	44.3	32 33		52	42.5 40.8	39.1	16		52	50.2	50.1	22 02	
50 52 54 56 58	2I.2 2I.0	21.9	58 57		54 56 58	42.9 43.8	45.0	34		54 56	40.8 40.1	38.0 37.9	19 19		52 54 56 58	52.3 52.0	51.4 50.9	2I 59 60	
8		20.8	57 56		58 24 00	44.9	45.9 46.3	35 36	-5.4	58	39.9	37.2	20			54.I	53.1	<b>5</b> 6	
			1		-7 -0			-							20 00	52.5	51.2	59	-4-

Correction to local mean time is +25.5s. 90° torsion = 20.'87. Torsion head at oh oom read 100° and at 24h 13m read 102°. Observer—R. R. T.

Correction to local mean time is — 7s. 90° torsion = 19.'53. Torsion head at 15h 29m read 102° and at 20h 24m read 106°. Observer—J. V.

Chr'r time	Sc. read Left	ale lings Right	East decli- nation	Temp C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	Scale reading Left Rig	s r	East decli- nation.	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem C.
h m	d	d	0 ,	•	h m	d	d	• ,	•	h m	ď	- d	0 /	0	h m	d	d	b ,	0
0 00	36.3 36.3	36.9 37.8	22 I3 I4	-1.4	22 00 02	34.9 28.9	36.3 30.1	22 I2 02	-1.0	0 00*	40.0 39 38.8 38	).2 3.1	22 27 28	+0.2	2 00	56.8 57.8	54.0 54.4	23 15	-0.1
04	37.0	39.0	16		04	28.0	30.5	02		04	38.8 38	3.1	28		04	55·3 52.8	52.0	14 18	1
o6 o8	37.I 36.0	38.9 37.9	16		06 08	28.0 26.2	30.5 29.1	22 02 21 59		06 08	37.0 36	.0	31 31		06 08	51.9	49.7	22 23	
IO I2	37.0 38.0	39·5 40·5	16		I0 I2	25.I 2I.I	28.1 24.0	58 51		10	38.8 37	3.8	<b>2</b> 9 <b>2</b> 6		IO I2	56.3 58.7	53.0 56.9	16 11	
14	<b>3</b> 6.7	39.0	15	-1.3	14	23.8	26.1	55	-1.0	12 14		.2	35	+0.1	14	53.8	51.0	20	-0.1
16 18	35·5 34·0	37.8 36.0	13 11		16 18	20.7	23.9 25.3	51 54		16 18		.0	37 34		18	52.2	51.1 49.6	21 23	
20	35.8	37.1	13		20	23.7 26.8	26.2	21 55		20	35.9 33	1.1	35 36		20	50.6	49. I	24	
22 24	37.8 38.9	39.2 40.1	16		22 24	27.9	29.6 29.5	22 00 01		22 24		.8	36 35		22 24	53.9 56.0	52.I 54.I	19 16	
26	36.9	38.1	15		24 26	29.1	31.0	03		26	35.3 34	.0	34		26	52.9	51.5	20	1
28 30	35.4	36.8 36.0	13	-1.3	28 30	29.0	30.9	03	-I.O	28 30	35.2 33 33.2 31	.8	35 38	0.0	28 30	53.2	51.9 51.8	20 20	-0.1
32	34.0	35.0	I0 I2		32	32.9 27.0	34.2 28.3	22 09 21 59		32	27.9 26	5.6	46		32	51.1	49.7	23 21	
34 36 38	35.7 36.2	36.0 37.0	13		34 36 38	22.9	24.I	53		34 36 38		.9	47 46		34 36	52.7 52.9	51.1 51.1	21	
38 40	37.I 37.0	37·9 37·9	15 15		38 40	21.1	23.3 22.0	51 49		38 40		5.6	47 46 48		38 40	49.I 46.I	48.4 45.1	26 31	
42	36.8	37.2	14		42	20.7	22.5	50		42	26.5 25	, I	48		42	50.0	49.2	24 26	
44 46 48	34.2	35.8 35.1	11	-I.2	44 46 48	20.8	22.3 21.1	50 48	-I.0	44		.3	50 47	0.0	44 46	49.9	48.0 42.0	20 35	0.0
48	32.8	34.2	09		48	19.8	20.9 20.5	48 48		48	29.9 26	0.0	44		48	39.0	37.9	42	
50 52	32.9 32.8	35.0 34.9	09		50 52	21.1	21.7	50		44 46 48 50 52		7.8	44 44		50 52	37.I 39.6	36.3 39.0	45 40	
54 56	34.I 36.I	36.0 38.3	II		54 56	18.1	22.0 19.1	50 45		54	27.1b 26.9b		44 46		54 56	44.2	43.2 45.0	34 32	
58	38.6	40.9	14 18		56 58	20.9	21.2	49		54 56 58	26.0 25	8.8	47 48		58	46.1	45.4	30	
00	38.9 37.8	41.0 39.8	19	-I.2	23 00 C2	18.2	19.5 16.5	46 42	-I.O	I 00 02		.0	<b>50</b> <b>5</b> 6	-0.1	3 00 02	46.1	45.8 46.9	30 28	0.0
04	38.8	39.9	18		04	18.1	18.5	45		04	22.6 20	0.9	55		04	50.9	50.0	23 26	
об 08	38.8	40.7 39.1	18 16	·	o6 o8	18.0	19.1	44 46		06 08		). I	52 22 55		06 08	49.I 50.0	48.4 49.3	24	
10	37.8	39.2 38.9	16 16		I0 I2	15.0	15.5 13.1	40 36		10	13.0 1	1.9	23 09		I0 I2	50.9 53.1	50.0 52.0	23 20	
12 14	37 · 5 37 · 2	38.2	15	-1.1	14	12.9	13.6	37	-i.o	12 14	11.0 9	.7	13	-ø. i	14	49. I	48.8	<b>2</b> 6	-0.1
18 18	36.1 36.3	37.2 37.1	13 14		16 18	II.7 I2.I	12.3 13.2	35 36		16 18*		7.9	19 36		16 18	43.5 43.1	42.9 42.5	35 35	
20	33.3	33.7	09		20	11.9	12.7	35		20	58.0 50	0.9	17		20	42.2	41.9	<b>3</b> 6	
22 24	30.8	31.2 31.1	05 05		22 24	10.3	11.9	34 34		22 24			23 <b>0</b> 1 22 46		22 24	50.8	44.0 50.5	33 23	1
26	36.7 30.8	37.7	14		26 28		11.2 11.8	33 34		24 26	69.cb		54		26 28	51.3 46.9	49.9	23 30	
28 30	37.3	31.3 37.9 42.1	05 15	-I.I	30	11.0	12.0	34	-i.o	28 30	70.1 76 69.0b		52 22 54	-0.1	30	39.9	38.0	41	-0.
32.3	40.8	42.I .2b	2I I4		32	11.2	12.8 14.8	35 38		32	63.5 62 63.0 61	2.9	23 03 04		32 34	31.9 22.2	30.5 21.5	23 53 24 08	
34 36	31	.9b	<b>o</b> 6		34 36	13.7	14.8	38 38		34 36 38	64.0 6	i.o l	02		36	21.2	20.I	10	
38 40	32.6 33.7	32.9 33.9	07		38 40	16.0	15.0 16.8	39 42		38 40	62.9 62 62.8 62 62.8 63	2.0	04 04	1	38 40	31.5	23.0 30.9	24 04 23 53	
42	35.2	36.0	12		42	17.2	17.9	44	~î.o	42	62.8 61	.9	04		42	37.0	35.8	45	-0.
44 46	36.2	36.5 37.5	13 14	-].I	44 46	13.7	.1b 14.1	44 38 38	1.0	42 44 46 48 50 52 54 56 58	58.0 55 71.3 65	7.3	23 I4 22 53	-0.I	44 46 48	37.9	36.1 36.8	45 44	-0.,
46 48	38.8	39.0	17		48 50	15.1	16.0 17.2	40 42		48	72.9 6	3.9	51		48	37·7 37.6	36.2	44	
50 52	44.2 51.1	50.3	27 36		52	17.1	17.9	44		52	60.8 58	3.1	22 52 23 09		50 52	35.9	33.8	23 48	
50 52 54 56 58	47.9		32 33		54 56 58	18.1	19.1	46 45		54 56	58.9 55 56.1 55	5.5	12 16		54 56	27.5	25.I 20.S	24 01 08	
58	41.9	43.8	23		58 24 00		17.9	43	-1.0	58	55.2 52	.6	18		58		23.0	04	

Correction to local mean time is — 16.5s. 90° torsion = 22.'23. Torsion head at 19h 15m read 102° and at 24h 34m read 101°. Observer—R. R. T.

Observer-R. R. T.

hr'r ime	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ings	East decli- nation.	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
m	d	d	. ,	•	h m	d d	0 ,	•	h m	d	d	. ,	•	h m	d	d	• ,	•
01*6 02	58.8	61.9 61.9	24 OI 02		6 00	38.4 38.5 7.0b	23 27 22 38	-0.4	8 00	58.2 76.7	57·9 74·3	22 50 23	-3.4	10 00	68.2	65.0 61.8	22 37 43	-4.0
04 06	58.6 58.9	63.1	03		04	9.0 10.0	42		04	59.	3 <i>b</i>	23 48		04	63.0	61.2	44	
08	60.1	63.1 64.7	03		06 08	19.2 20.9 25.8 26.0	22 58 23 08		06 08	62.9 64.3	61.0	44 43		06 08	66.1	63.9 64.1	39 38	
IO I2	60.9 62.0	65.3 65.9	06 07	1	10 I2	23.0 24.9	05 18		10	58.1	53·3 57·8	54 48		10	70.0	67.8	33	
14	58.9	63.0	03	0.0	14	31.0 34.1 31.9 33.8	19	-0.5	12 14	61.1	59.8	45	-3.7	12 14	66.9 65.9	66.0 64.1	37 39	-4.0
16 18	58.8 53.0	62.5 55.9	24 02 23 52		16 18	23.0 25.2 23.0 25.9	05 05		16 18	61.4 58.9	58.9 53.6	47		16 18	65.7 68.0	63.0 66.8	40 36	
20	51.0	54.2	50		20	23.1 26.3	06		20	61.9	58.2	53 47		20	65.2	63.2	40	
22 24	52.0 55.3	56.0 58.2	52 56		22 24	28.9 31.1 27.9 30.0	I4 I2		22 24	60.5 62.1	56.1 57.2	50 48		22	64.2 65.9	63.1 63.8	42 40	
26 28.3	51.0	55.9	23 51		26 28	26.1 29.0	10		26	58.0	53.2	54		24 26	66.0	64.3	39 38	İ
20.3 30	68.0	63.0 71.5	24 02 16	-o.1	28 30	26.2 29.9 26.2 23.9	06	-0.4	28 30	57·7 56.7	51.9 54.6	55 54	-3.9	28 30	65.3	64.9 64.1	38 40	-4. I
32	72.3 67.1	75·5 70·0	23 15		32.3	26.0 28.2	10		32	69.5	65.7	35		32	65.9	64.8	39	
6	59.9	62.2	24 03		34 36	27.I 29.2 22.0 24.0	03		34 36 38	56.2 62.5	54.I 59.I	55 46		34 36 38	65.9 66.6	64.3 64.6	39 38 38	
8	55·4 57.8	59.1 61.1	23 57 24 00		38 40	27.0 27.1 31.8 33.0	10		38 40	75·3 63·7	72.8 62.1	25 22 43			66.7 66.0	65.0 64.3	38 39	
2	68.o	71.1	16		42	23.8 26.3	23 06		42	49.7	45.2	23 07		40 42.4	65.5	63.3	40	
6	58.7 52.0	61.9 55.7	24 02 23 52	-0.2	44 46	20.3 2I.0 25.0 26.0	22 59 23 07	-0.3	44 46	68.0	56.8 63.7	22 49 38	-3.9	44 46 48	65.7	62.9 64.7	40 39	-4.0
8	53.7	57.5	54		48	24.0 24.2	23 05		48	60.3	56.2	50		48	67.1	66.1	37	
0 2	46.9	50.2 52.1	23 45		50 52	20.0 20.9 27.0 28.3	22 59 23 IO		50 52	57.8	55.2 53.0	51 54		50 52	68.1	67.4 65.9	35 37	
4	58.7 50.8	62.0 56.0	24 02		54 56	27.0 27.9	10 04		54 56	56.6	51.3	57		54 56	65.5	64.7	39	
6 8	37.6	41.8	23 51 29		58	22.I 24.I	23 03		58	58.5 52.9	53.1 49.8	22 54 23 OI		50 58	65.8 64.8	64.9 64.2	39 40	
2	38.8	42.I 46.9	30 40	-0.2	7 00 02	16.0 18.7 8.9 10.1	22 54 42	-0.2	9 00 02	51.1	47.9	04 05	-3.9	11 00	63.9	63.4 63.0	42	-4.0
4	45·9 56.3	57.8	57		04	18.0 20.5	57		04	49.3 49.9	47·7 49·3	04		02 04	63.9 65.1	64.2	42 40	
8	48.0 48.4	48.5 49.5	43 44		o6 o8	19.I 20.9 22.I 24.I	22 58 23 03		06 08	52.0 56.1	51.0 55.2	23 00 22 54		06 08	64.9 66.0	63.3	41 39	
0	39.9	42.I	32		10	20.2 22.8	23 01		10	54.1	53.2	57		10	68.о	67.0	35	
2 4	48.0 41.7	49.0 44.0	43 34	-0.2	12 14	17.2 19.1 17.8 19.9	22 56 22 57	-0.1	12 14	54.I 55.I	52.I 54.9	58 55	-3.9	I2 I4	70.8 71.9	69.2 71.1	3I 29	-3.9
6	39.8	44.9	34		16 18	21.4 24.1 36.0 37.0	23 03 24		16 18	58.8	58.4	49		16	67.1	66.2	37	
8	41.0 40.3	45.2 44.3	35 34		20	28.0 28.2	23 11		20	60.3 62.8	59.9 62.8	47 43		18 20.3	67.7 67.3	66.9 67.0	36 36	
2	46.8	49.5	43		22 24	15.8 16.2 16.1 17.0	22 52 53		22 24		63.5 63.1	41 42		22 24	67.0 67.2	66.1 66.3	37	
6	45.0 47.2	48.0 50.9	40 44		26	19.1 20.0	58		26	62.1	61.7	44		26	66.0	64.9	37 39 38	
8	53.0 51.0	57.2 54.8	54 50	-0.2	28 30	19.8 21.8 13.8 14.2	60 49	0.0	28 30	60.9 59.1	60.1 58.1	46 49	-4.0	28 30	65.9 68.9	65.1 67.8	38 34	-3.9
2	36.9	41.0	50 28	0.2	32	13.8 14.8	50		32	61.1	59.6 60.3	47	4.0	30 32	68.4	66.9	35	3
6	39. I 28.8	42.9 30.0	32 13	ĺ,	34 36	13.9 15.1 27.2 27.3	22 50 23 10		34 36	62.0 61.5	60.3	45 45		34 36 38	70.0 67.8	68.7 66.9	32 36	
8 [	20.I	22.9	OI		38	36.9 37.2	23 25		38	63.7	63.6	42		38	68.0	66.8	36	
2	29.0 32.0	29.9 34.2	13 19		40 42	20.0 2I.0 19.3 19.9	22 59 22 58		40 42	62.0	64.0 60.6	40 45		40 42	67.7 67.7 68.8	67.0 66.8	36 36 36	
4	29.0	29. I	13	-0.3	44 46	21.4 21.7 17.0 18.1	23 01	+0.1	44 46	61.8	бо. і	45 46	-4.0	42 44 46 48	68.8	67.4	34 36	-3.9
5	29.2 33.5	31.2 34.4	14 20		48	15.9 16.0	22 55 52		48 48	65.8	61.2 64.5	45 30		48	67.9 66.8	66.9 66.0	37	
0	24.I	24.2	05		50	16.1     17.0       22.7     22.9	22 53 23 03		50	66.1	65.3	39 38 38		50	64.0	63.5	40	
2	24.9 18.9	25.2 19.5	23 06 22 57		52 54	21.3 22.1	OI		52 54	67.1	65.3 65.6	37		52	67.4 69.8	69.2	36 32	
4 8 8 2 4 6 8	22.9	24.3	23 04		54 56 58	22.8 23.8 18.9 21.0	23 04 22 58	+0.2	52 54 56 58	66.3	65.4 66.9	37 38 35		50 52 54 56 58	72.8 72.1	71.6	32 28 28	
0	33.0	33.5	19		8 00	17.0 19.1	55	,	50	9		55		12 00	69 I	67.6	34	-4.

Correction to local mean time is — 54.5s. Torsion head at oh oom read 102° and at 8h 20m read the same. Observer—R. R. T.

Correction to local mean time is + 32s. Torsion head at 7h 25m read 104° and at 12h 14m read the same. Observer—R. R. T.

Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	Scread read	_	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'i time	read	ale ings Right	East decli- nation	Temp C.
h m	d	d	0 ,	0	h m	d	d	0 /	•	h m	d	d	0 /	0	h m	d	đ	• ,	
2 00 02	50.9 49.6	51.7 50.1	22 35 33	-0.3	14 00 02	42.8 42.8	43.I 43.I	22 22 22	+1.0	0 00*	35.6 33.0	32.I 31.0	22 I5 I8	-2.6	2 00	40.2 39.5	39.2 38.3	22 57 58	-2.1
04 <b>0</b> 6	48.7 50.2	49·3 51·4	32 34		04 06	43.9 43.1	44.6 43.8	24 23		04	32.9 34.8	31.0 33.9	18		04 06	38.6 35.8	38.0 35.3	22 59 23 03	
o8	50.1	50.7	34		08	42.2	42.9	21 18		07 08	28.7	28.1	24 26		08	36.0	35.0	23 03 22 58	İ
10 12	47.2 45.3	47.6 46.2	29 26		10 12	39.9 40.1	40.9 41.2	18		10 12	27.1 26.8	26.9 25.4	27 38		10 12	39.9 40.2	38.5 39.0	57	
14 16	44.8 45.9	45·5 48.2	26 28	0.0	14 16	39·3 38.0	40.9 39.3	18 15	+0.9	14 16	19.4 14.2	19.3 13.3	38	-2.8	14	42.9	41.1 41.2	53 53	-2.2
18 20	48.0 51.1	50.3	32		18 20	39.I 38.I	39.9 38.9	17		18 20	21.0	18.1	47 38 33		18 20	41.2 42.3	39.2 40.9	56	
22	52.2	54.2	37 38		22	38.1	38.9	15		22	23.9 27.1	22.I	30		22	40.3	38.4	54 22 58	
24 26	53.8 52.7	55.0 54.1	40 38		24 26	36.7 36.2	37.6 37.1	13		24 26	23.2	17.1 17.0	37 38		24 26	37.I 37.0	35·3 35·9	23 02 02	
28 30	51.4 52.3	52·3 53·3	36 38	+0.1	28 30	37·7 37.8	38.1 38.9	14 15	+0.9	28 30	24.9	22.0 17.8	32 37	<b>-2.9</b>	28 30	36.0 35.9	34.7 34.0	04 04	-2.3
32	48.8	49.1 49.6	31 32		32	37.6 38.3	38.2	14 16	, -	32	25.9	23.1	30 26		32	33.9 35.3	32.8 33.9	07 05	
34 36	50.1	50.9	34		34 36	39.0	40.I	17		34 36	29.0	25.I 22.9	28		34 36	36.2	34.9	04	
38 40	50.0 48.3	50.2 49.1	33 31		38 40	37.1	39.6 38.4	15 14		38 40*	18.0	16.0 37.0	42 22 59		38 40	36.1 36.8	34·9 35·4	04 03	
42 44	50.0 48.7	50.5 49.1	33 31	+0.2	42 44	37.1 36.9	38.3 37.9	14	+0.9	42	28.0 39.2	27.3 38.9	23 16 22 58	-2.8	42 44	37.0 37.9	36.1°	02 00	-2.5
44 46 48	47.1 48.3	48.1 50.1	29 32		44 46 48	37.5 36.8	38.1 37.4	14 13		44 46 48	50.9	49.9	40 31		46 48	37.0	36.5 34.9	02 04	
50	50.3	52.0	35 36		50	35.1	36.o	10		50 52	57.0 59.1	55.3 56.8	28		50	35.I 37.I	35.0	02	
52 54	51.I 50.I	52.8 52.0	35		52 54·3	33.6 33.1	34.I 33.4	07	:	52 54	60.3	59.0 58.3	25 26		52 54 56	28.2	27.8 25.2	15	
56 58	49.3	51.1 49.5	33 31		56 58	33·7 33·9	34.I 34.6	08 08		54 56 58	58.2 51.0	56.9 49.4	29 40		56 58	25.2 23.0	23.7	21 24	
3 00	45.9 43.9	48.0 48.1	31 28 27	+0.7	15 00 02	33.8	34.2 34.7	08 08	+1.1	1 00	50.8	49.1	41	-2.7	3 00	20.3	20.I 2I.9	28 25	-2.5
04	46.4	48.4	29 28		04	33.3	33.9	07 08		02 04	54.1 58.9	52.5 57.9	35 27		04	23.4	23.1	23	
об 08	45·9 45·3	48.0 47.2	20		06 08	33.9 35.9	34.7 36.6	11		o6 o8	59.0 57.6	58.1 56.0	27 30		o6 o8	24.2	23.7 22.2	22 24	
IO I2	45.3 45.6	47.I 47.I	27 27		10 12	35.0	35·3 33.8	10		I0 I2	52.2 48.5	51.8 48.0	37 43		10 12	21.9	21.5 24.7	25 20	
14 16	46.6	48.3 48.1	29 29	+0.9	14 16	30.4	30.9 30.1	03	+1.4	14	41.9	41.4	54	-2.5	14	26.1	25.2	19 20	-2.5
18	47.0 46.1	48.2	29		18	29.I 29.6	29.4	00		18	43.8	43.0	22 54		18	25.2	24.9 25.1	20	
20 22	46.1	48.0 45.9	28 25		20 22	31.7	32.1	05		20 22	37·7 35·0	36.8 33.7	23 OI 05		20 22	28.0 28.0	27.5 27.6	16	
24 26	41.1 38.1	43.8	2I 16		24 26	31.9	32.9 32.8	05 05		24 26	37·5 34·9	36.5 33.1	01 06		24 26	27.I 23.8	26.0 22.0	18 24	
28	34·4 35·0	37·5 37·0	11	+1.1	28 30	32.0 35.2	32.9 36.3	05 11	+1.8	28	31.0	29.5	12	2.4	28	21.8 16.7	20.2 14.2	24 26 35	-2,4
30 32	35.9	38.0	12	111	32	36.2	37.9 36.8	13 11		30 32	27.2 28.9	26.0 26.6	17 16	-2.4	30 32	13.7	11.7	40	
34 36	34.I 36.9	36.2 38.9	10 14		34 36 38	35.0 34.9	36.8	II		34 36	33.2	32.8 33.5	07		34 36	15.0	13.0 15.0	38	
38 40	32.3	34.2	07 04		38 40	33.9 34.8	35·7 36·5	09		38 40	34.2	33.I 30.9	06 09		38 40	19.8	17.9 18.8	30 28	
42	32.I 33.I	33.I 34.2	06	+1.1	42 44	36.9 37.0	38.6 38.6	I4 I4	+2.0	42	31.2	29.9	II		42	20.I	18.2	30	
44 46	33.8	34.7	07 08		44 46 48	35.0	37.5	II	'	44 46	33.0 35.0	31.9 32.8	o8 o6	-2.4	44 46	18.1	10.3	32 42	-2.3
48 50	35.9 35.8	37.1 37.0	12		50	34.2 31.0		05		48 50	37.2	35·4 40.2	23 O2 22 54		48* 50	37·7 34·I		48 55	
52 54 56 58	37.8	39·5 40·5	15		52 54	31.0	33·4 33·8	05 05		52	45.0	43.0	50		52	31.8	28.0	57 56	
56	40.2	4I.I 42.4	18		54 56 58	30.3 31.1	32.8 33.4	04 05 08		54 56 58	46.9 45.0 42.7	44.0	47 49 53		54 56 58	32.3 33.2 31.3		54 57	

Correction to local mean time is + 17.5s. 90° torsion = 19.'22. Torsion head at 11h 25m read 104° and at 16h 15m read 97°. Observer—R. R. T.

Observer-J. V.

hr'r ime		ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	Scale readings Left Righ	East decli- nation	Temp. C.	Chr'r time	Scale readings	East decli- nation	Temp C.
m	d	d	0 ,	•	h m	d d	• ,	-	h m	d d	0 ,	0	h m	d d	. ,	•
00 02	34.I 37.9	33.1 36.0	23 51 46	-2.2	6 00	32.0 31.2 29.1 28.3	23 55 23 59	-2.2	8 00	67.6 66. 66.0 64.		-1.0	10 00 02	34.3 32.6 34.1 33.6		-0.8
04 06	40.0	37.6	43		04	28.8 27.1	24 OI		04	67.3 65.	10		04	31.5 30.5	56	
08	43.7 43.0	41.5 40.9	37 38		06 08	24.2 23.I 23.I 22.7	08 08		o6 o8	61.3 60. 63.2 63.			06 08	33.9. 32.3 34.8 34.0		
10	36.9 30.9	35·5 29·2	47 57		10 12	28.1 27.4	01		10	65.9 65.	2 02		10	35.6 34.6	50	
4	35.0	31.9	52	-2.2	14	22.9 22.2	05 09	-2.0	12 14 16	61.3 61. 64.8 64.		-0.8	I2 I4	33.6 32.3 33.5 32.8	53	-0.8
8	36.1 37.0	32.9 34.0	50 48		16 18	26.0 25.0 28.6 27.1	04 24 OI		16 18	67.0 66. 66.3 66.			16 18	33.5 32.3 32.3 31.8	53	
ю	36.6	33.2	49		20	32.9 30.3	23 55		20	69.5a	22 56		20	34.0 32.8	53	
22 24 26	35.0 35.3	32.I 33.8	52 50		22 24	38.9 38.0 51.7 49.8	44 25		22 24	67.1 66. 70.6 70.			22 24	34.6 33.3 33.8 32.1		
ю 8	35.8 35.8 30.3	33·7 28.1	50 23 58		26 28	47.0 44.1 25.8b	23 33		26 28	60.3 68.	22 57		26	33.5 32.8	53	
30	29. I	27.8	24 00	-2.2	30	28.0a	24 04 24 0I		30	66.3 65. 67.8 67.	3 22 58	-0.8	28 30	35.5 35.3 35.0 34.3		-0.6
2	25.8 20.8	24.7 18.8	04 I3		32.2	64.1 64.1 60.1 59.9	23 04 10		32	67.3 66. 65.6 65.			32	33.3 32.1 33.9 32.3		
6	23.6	21.1	09		34 36	66.8b	00		34 36 38	66.0 66.	02		34 36 38	33-5 33-3	53	
8 10	27.0 31.5	25.0 28.2	24 03 23 57		38 40.5	38.8 38.8 55.0a	44 18		38 40	66.1 66. 69.2 69.			38 40	34.5 34.3 35.6 35.3		
2	31.5	29.3 30.1	56 55	-2.3	42	61.2 60.8 61.6 60.5	19 09	-1.7	42	69.3 68. 68.7 68.	57	-0.8	42	34.6 34.5	51	
14 16 18	32.6 32.1	29.0	23 56	2.3	44 46	64.5 63.1	04	-1./	44 46 48	63.5 63.	23 06	-0.8	44	34.2 34.0 35.2 35.0	50	-0.5
8	25.8 30.7	23.I 27.0	24 06 23 59	-	48 50	61.7 59.0 58.0 55.6	10		48 50	70.0 69. 70.6 70.			44 46 48 50	35.5 35.5 35.3 35.6	49	
52	34.4	32.0	52		52	56.9 56.1	16 18		52	70.3 70.	3 55		52	36.9 36.8	48	
6	37.0 39.0	33.2 36.3	49 45		54 56	56.1 55.0 58.0 58.0	14		54 56	70.0 69. 76.4 76.	55 2 45		54 56	37.1 36.8 36.0 35.6	48	
8	36.7 36.8	32.5	50	-2.3	58 7 00	61.9 60.9 58.8 58.1	08	-ı.8	58 9 00	76.8 76.	3 45	-0.8	58 11 00	35.3 34.8 Lost		
0	38.9	33·7 33·7	49 47	-2.3	02	62.2 60.0	09	1.0	02	71.0 70. 71.0 70.	3 54	-0.8	02	37.0 36.6	48 46	-0.3
6	42.0 43.0	38.2 38.8	41 40		04 06	59.3 57.7 55.3 54.9	13		04 06	70.5 70. 71.5 71.			04 06	38.0 37.3 36.4 36.2	46	
8	49.6	45.8	29		08	60.6 59.9	10		08	71.5 70.	3   54		08	38.0 37.0	46	
2	56.0 50.5	53.0 49.1	19 26		10 12	58.3 57.1 59.6 58.7	I4 I2		10 12	69.8 69. 68.6 68.	50 58		10 12	39.3 38.6	: 1 46	
4	45·3 42.8	44.0 41.8	34 38	-2.3	14 16	58.1 57.2 56.8 56.2	14 16	-1.5	14 16	70.6 70. 69.6 69.	3 55	-0.8	14 16.2	39.6 38.8	3 44	-0.3
8	41.3	40.8	40		18	56.5 55.2	17		18	71.0 70.	54		18	40.3 40.0	42	
0 2	39.9 36.8	39.6 35.5	42 48		20 22	58.3 57.8 61.7 60.1	09	-	20 22	72.0 71. 71.9 70.			20 22	39.6 39.4		
4	34.9	32.6	51		24	63.2 62.9	06	. 1	24	70.6 69.	5 55		24	38.0 37.3	3   46	
8	36.0 39.0	34.9 36.9	49 45		26 28	64.9 64.0 63.1 61.5	04 07		26 28	71.0 69. 71.6 71.	55 1 53		26 28	38.5 38.3 38.0 37.0		
0	41.3	40.7	40	-2.4	30	64.2 64.1 62.8 61.8	04 07	-T.3	30	71.2 70.	55	-0.9	30	39.0 39.0	2 44	-0.4
4	38.2 38.2	38.2 37.9	44 45		32 34	63.8 63.5	23 05		32 34 36	72.5 72. 72.8 72.	52		32 34 36	38.6 38.6		
2 4 6 8	36.7	36.0	47 51		36 38	70.2 69.3 69.8 69.2	22 55 56		36 38	72.1 71. 70.8 70.	3 53		36 38	40.3 40.0	42	
0	33·9 35·7	33.9 35.5 36.8	48		40	70.2 69.3	55		40	70.0 69.	3 56		40	40.3 39.	7 43	
2	38.0 38.8	36.8 37.5	46 44	-2.4	42 44	69.5 68.1 69.2 67.9	57 57	-1.1	42 44	72.6 72. 73.3 72.		-0.8	42 44	40.6 40.		-0.4
6	40.0	39.2	42		44 46	70.2 69.0	56		44 46	71.0 71.	54		42 44 46 48	30.2 39.0	2 44	
8	41.2	41.1	40 36		48 50	70.1 69.0 65.2 63.1	22 56 23 04		48 50	70.1 70. 73.6a	55 50		48 50	38.0 37.0 38.0 37.0	6 46 3 46	
2	42.8	43.I	37 36		52	62.1 60.0 68.1 64.7	09		51*	73.6a 42.5 37.	3 42		52	39.0 38.	7 44	
2 4 6 8	43.9 38.2 36.8	43.I 37.8	30 45		54·3 56 58	62.2 59.9 64.0 62.7	09 <b>0</b> 6		54 56 58	32.0 30. 24.5 23.			50 52 54 56 58	39.6 39. 40.1 39.		

Observer-J. V.

Observers—J. V. and W. J. P., who alternated from 8h oom to 8h 10m.

# Tabulation of magnetic declinations observed at Teplitz Bay-Continued

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Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca readin	ngs	East decli- nation	Tem C.
h m	d	d	• ,	•	h m	d	d	. ,	•	h m	d		0,	•	h m		ď	. ,	•
2 00 02	39·9 39·7	39.6 39.5	22 43 43	-0.3	14 00 02	47.9 48.1	47.7 48.0	22 3I 3I	-0.3	16 00 02	56.3 55.8	56.1 55.6	22 I8 I9	-1.2	18 00	47·4 48.1	46.8 46.9	22 33	-1.4
04 06	39.6 39.8	39.2	44		04 06	48.8	48.6	30		04	56.0	55.7	19		04.1	48.0	47.0	32 32	
08	40.3	39.4 39.8	43 43		08	49.1	48.9 48.3	29 30		06 08	56.0 56.3	56.0 56.1	18		06 08		47.9 48.1	31 31	
10 12	40.3	39.8 40.3	43		10 12	48.0 48.2	47.8 47.8	31		10	56.0	56.0	18		10	49.8	49.2	29	1
14	40.3	39.6	42 43	-0.3	14	48.1	47.9	31 31	-0.3	12 14	54.9 54.6	54.8 54.5	20 21		I2 I4		49.6 50.1	29 28	-r.o
16 18	40.1 40.6	39.5	43		16 18	48.5 48.6	48.3 48.6	30		16	54.3	54.3	21		16	51.0	50.1	28	1
20	41.2	40.3 40.8	42 41		20	49.6	49.3	30 28		18 20	53.9 53.0	53.8 53.0	22 23		18 20		50.1 50.3	28 27	
22	42.6	42.0 42.8	39		22	49.5	49.2	29 28		22	52.6	52.5	24		22	51.4	50.5	27 26	
24 26	43.2	42.9	38		24 26	49.6	49·5 49·7	28		24 26	52.0 52.3	52.0 52.0	25 25		24 26		50.8 51.1	26 26	
28	43.0	42.6	38		28	49.6	49.6	28		28	51.5	51.3	25 26		28		52.1	24	
30 32	42.8 43.1	42.5 42.8	39 38 38 38 39 38 36	-0.2	30 32	50.2	50.0 51.0	27 26	-0.5	30 32	51.3	51.0 51.5	26 25	-1.5	30 32		53.0 54.1	23 21	-0.8
34	44.3	44.2	36		34 36 38	51.3	51.2	26 28		34	52.2	52.0	25		34	5b.1 5	54.9	20	
36 38	45·3 44.6	45.0 44.0	35 36		38	50.1 49.0	50.0 48.8	29 26		34 36 38	52.5 52.3	52.I 52.0	24 25		36 38		55.3 55.6	19 19	
40	44.0	43.6	37		40	51.3	51.0			40	51.7	51.3	25		40	55.5	5.4	19	
42 44	44.2 44.6	44.0 44.4	37 36 36 36	-o.1	42 44	51.6 50.6	51.2 50.5	25 27	-0.7	42	51.1 50.4	50.6 50.1	27 28	-1.8	42		54.4	20 21	-0.9
44 46 48	44.8	44.6	36 36		44 46 48	51.8	51.3	25		44 46	49.7	49.3	29		44 46	55.1	54.2	21	-0.9
50	44.9 45.0	44.6 44.9	35		50	52.2 49.3	52.0 49.0	24 29		48 50	50.0	49.7 50.0	29 28		48 50		54.7 55.0	2I 20	
52	45.2	45.0	35	į	52	48.0 48.6	48.0 48.6	31		52	49.6	49.4	29		52	55.9	55.2	20	l
54 56	45.4 45.6	45.2 45.6	34 34		54 56	49.3	49.0	30 29		54 56	49.3	49.1 49.0	29 30		54 56		55.2	20 17	
58	45.8	45.6	34	0.7	58	49.3 48.8	49·3 48·7	29	_ , ,	56 58	49.3	49. I	29	-2.0	58	58.8	58. I	16	
00 02	46.2 46.4	46.1 46.4	33 33	-0.I	15 00 02	49.0	49.0	30 29 28	-1.0	17 00 02	49·3 49·0	49.1 48.8	29 30		19 00 02		58.8 59.0	14 14	-1.0
04	47.0	46.9	32		04 06	49.6	49.6	28 28		04	49. I	48.9	30		04	60.7	59.5	13	
<b>ი</b> ნ <b>ი</b> 8	46.3 45.8	46.0 45.8	33 34	,	08	49.6 50.5	49.5 50.3	27		06 08	48.5 48.1	48.2 47.9	31 31		06 08		50.0	I2 I2	
10	46.0	45.7	34		10	51.3	51.3	26		10	47.9	47.7	32		10	61.1 6	60.0	12	1
12 14	46.0 46.3	46.0 46.3	34 33	0.0	12 14	51.9 52.7	51.6 52.3	25 24	-1.0	12 14	48.0 48.5	47.8 48.2	32 31	-2.0	12 14		50.0	12 12	-0.9
16.9	47.0	46.9	32		16	52.5	52.3	24		16	48.8	48.6	30	2.0	16	61.3	60.2	12	0.9
18 20	47.2 47.6	47.2 47.4	32 31		18 20	52.3 53.0	52.3 52.6	24 23		18 20	48.6 48.1	48.3 47.6	31 32		18 20		50.5 50.1	I2 I2	
22	47.7	47.5	31	İ	22	64.0	63.6	23 06		22	48.3	48.0	31		22	60.9	50.I	12	
24 26	47.6	47·5 47·9	31 31		24 26	55.1 56.0	55.6	20 19		24 26	48.0 48.5	47.7 48.2	32 31		24	60.5 5	9.9	13 13	
28	48.0	47.9	31		28	57·3 56.6	57.I	16 18		28	48.7	48.3	30	1	20 28	00.9	59.8	12	
30 32	48.0 47.8	47.8 47.3	31 31	-0.1	30 32	50.0	56.5 56.6	17	-1.1	30 32	46.6 46.1	46.3	33	-2.0	30	60.9	9.9	12 12	-0.7
34	47.6	47.3	32		34 36	56.6	56.5	17 18		34	46.2	45.8 45.5	35 35		32 34	60.2	59.9 59.3	14	
34 36 38	47.0 46.5	46.9 46.3	32 33		30 38	57.0 55.8	57.0 55.6	17 19		36 38	45.7		35		36		9.1	14	
40	46.3	46.0	34		40	55.4	55.0	20		40	45.2 44.3	44.9 44.2	36 37		38 40	59.3 5 59.0 5	9.0 8.4	14 15	
42	46.3 47.5	46.1 47.0	33 32	-0.2	42 44	55·3 55·3	55.0 55.1	20 20	-I.2	42	44.3	43.9	38	-2.0	42		7.0	17	-0.4
44 46 48	48.2	47.8	30	٠.٣	46	55-3	55.0	20		44 46	44·4 44·9	44.0	37 37	-2.0	44 46		6.1 5.7	19 19	0.4
48	48.6	48.4	30		48 50	55.3 55.1	55.1 54.9	20 20		48	45.0	44.8	<b>3</b> 6		48	57.0 5	6.7		
50 52	49.0	49.0 48.9	29 29	İ	52	55.3	55.0	20		50 52	45.8 46.3	45.6 45.9	35 34		50 52	56.7 5	б. <b>о</b> 6.1	19 19	1
54 56 58	48.3	48.0	30		54	56.3	56.3	18		52 54	46.8 46.8	46.0	34		54	57.1	6.9	18 18	
50 58		48.0 47.8	30 31		56 58	57.1 56.9	57.0 56.9	17 17		56 58	46.6 47.1	45.9	34 34		56 58		6.9 6.1	19	

Observer-W. J. P.

Observers—W. J. P. and R. R. T., who alternated from 17h 34m to 17h 48m.

Wed	nesday	, June	1, 1904			M	agnet s	scale inv	erted	Thur	sday,	June 2,	1904				Magn	et scale	erect
Chr'r time		ale lings Right	East decli- nation	Temp.	Chr'r time	reac	ale lings Right	East decli- nation	Temp.	Chr'r time	read	cale dings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d 56.3	d 55.8	0 ,	•	h m	đ	d	• ,	•	h m	đ	d	0 /	0	h m	d	đ	0 ,	•
02	55.8	54.3	22 I9 2I	-0.5	22 00 02	57.1	.3 <i>b</i> 56.1	22 21 19	-0.7	16 00 02	57.2 58.1	58.0 59.1	22 24 26	-1.0	18 00	55·3 56.0	57·4 58·5	22 22 23	-1.5
04 06	55.I 54.5	54.0 53.6	22 22		04 06	57.0 57.8	56.2 57.1	18		04.5	59.9 61.2	60.5 62.1	28 30		04 06	55.9 55.6	58.0 56.2	23 21	
80 10	55.8 57.3	55.0 56.8	20 18		08 10	57·3 57·5	56.9 56.9	18		10	62.9	64.1 65.2	33 35		08 10	53.1 53.0	55.0 54.9	18 18	
12 14	57·7 55·3	57.1 55.3	17 21	-0.7	I2 I4	56.1 55.4	55·5 54.6	20 22	-0.5	12 14	65.2 64.0	65.7 65.1	35 36 35	-1.2	12 14	53·5 54·0	55.2 55.9	19 20	-I.I
16 18	55.I 55.I	54·5 54·5	2I 2I		16 18	54.0 53.0	52.8 52.1	24		16	62.8 61.2	63.8	33 31		16 18	54·9 55·0	56.1 55.9	2I 20	
20 22	55·3 54·2	54.9 53.1	2I 23		20 22	52.8 52.1	51.8	25 26 27		20 22	59.9 59.8	61.0 61.0	28 28		20 22	54·4 54·3	55·3 55·2	20 20	
24.2 26		52.2 52.2	25 25		24 26	50.0	48.2 46.1	31		24 26	58.3 56.9	59.1 58.1	26		24 26	54.0	54.9 54.9	19	
28	53.8	53.0 51.8	24 26		28	49.1	46.6	33 33		28	56.7	57.9	24 24		28	54.4	55.4	20	
30 32	52.2 49.3	48.6	31	-0.9	30 32	49.3 49.4	47.0 47.5	32 32	-0.2	30 32	57.0 57.0	58.0 57.8	24 24	-1.2	30 32	55.2 56.2	55.9 57.0	2I 22	-1.0
34 36 38	49.2 49.8	48.7 49.2	31 30		34 36 38	49.5 49.1	47.8 47.2	32 32		34 36 38	56.9 57.9	57·4 58.0	23 24		34 36	57.7 57.8	58.1 58.2	24 25	
40	53 · 7 55 · 4	53·3 55.0	23 21		40	49.0 49.1	47·3 47·7	32 32		40	56.1 55.9	56.8 56.2	22 22		38 40	56.9	57·3 57·3	23 23	
42 44	55.1 55.8	54. <b>7</b> 55.2	2I 20	-0.9	42 44	50.0 46.3	48.1 44.7	31 36	-0.5	42 44	55.8 57	.8a	2I 24	-1.4	42 44	56.8 56.1	57.1 56.9	23 22	-0.9
44 46 48	54.9 55.0	54.2 53.3	22 22		44 46 48	50.2 57.4	44.7 48.7 48.1	30		44 46 48	60.2		28 29		44 46 48	56.1	56.9 57.1	22 22	
50 52	55.1 54.7	54.I 53.6	22 22		50 52	47.1 60.8	29.8 47.1	25 48 23		50 52	60.3 59.2	60.8 59.9	29 27		50 52	56.2 56.2	57 · 4 57 · 7	23 23	
54 56	56.6 57.1	55.6 55.8	19 19		54 56	54.0 51.2	41.9 41.2	32 35		54 56	58.8 61.0	59.8 62.0	27 30		54 56 58	56.9 57.7	58.0 58.8	24	-
58	58.1 57.4	57·5 56.2	17	-0.8	58 23 00	52.2	45·7 49.6	31	-0.9	58 17 00	62.8	63.8 62.8	33 32	-1.7	58 19 00	58.2	59·3 59·5	25 26 26	-0.8
02	56.8 56.9	55.7	19	-0.0	02	56. ī	47.8	23 26	0,9	02	61.9 61.0	63.0 62.1	32 30	-1.7	02	57.9 58.3	58.8 59.1	25 26	0.0
04 06	56.8	56.0 56.1	19 19		04 06 08	50.4	43.7 49.0	34 26 21	·	04 06	60.3	61.8	29		o6 o8	59.1	59.1 59.9 60.2	27 28	
08 10	55.8 55.0	54. I 51.8	2I 24		10	58.9 57.1	52.7 51.3	23		10	62.7 65.1	64.0 66.1	33 36		10	60.0	60.4	28	
12 14	60.0	56.9 56.7	16 16	-0.7	12 14	58.8 57.8	53.0 51.7	20 22	-1.0	12 14	64.8 63.7	65.0 64.8	36 34	-r.8	12 14	60.5	60.9	29 29	-0.8
16 18	бо.о бо.і	57.1 57.8	16 15		16 18	55.8 57.0	50.1 51.5	25 23 16		16 18	59.7	61.0 60.2	20 28		18 18	60.9	61.1 61.0	29 29	
20 22	59.9 58.8	59·7 55·9	13 18		20 22	60.5 53.9	56.1 51.1	26		20 22	57·9 56.7	58.2 57.3	25 23		20 22	59·4 57·3	59.8 57.9	27 24	
24 26	57.2 55.9	55.0 53.2	20 22		24 26	57.2 58.9	52.3 54.1	22 19		24 26	54·7 53·2	55.I 54.0	20 18		24 26	56.1 56.1	57.I 57.0	22 22	
28	55.0	52.2 52.2	23 24	-0.7	28 30	59.0	54.0 50.7	19 25	-I.4	28 30	53.2 53.8 54.0	54.9 55.2	19 19	-1.8	28 30	57.0 57.9	57·7 58.8	24 25	-0.9
30 32	54.9 54.8	53.3	23	0.7	32	55.7 53.8 56.0	49.9 51.2	27 24		32 34	55.0 54.8	56.3 56.0	2I 20		32	50. I	58.4	25 26 26	
34 36 38	55.8	55.7 52.8	19 22		34 36 38	56.8	52.1 52.8	23 21		36 38	55·7	57.I	22		34 36 38	58.4 58.0 57.8	58.9 58.6	25 25	
40	59.8	57.2 57.6	16 16		40	57.2 56.3	52.0	23		40	55.9 54.9	57.1 56.1	22 21		40	57.3 56.8	58.2 58.8	24	
42		56.9 53.9	17 21	-0.8	42 44	56.9 56.9	52.2 52.8	22 22	-1.5	42 44	54·2 54·7	56.0 56.3	20 21	8.r	42 44 46	56.2	57.8	24 23	-0.9
44 46 48	56.0	53.5 53.0	22 23		46 48	55.1 53.9	50.5	25 26		46 48	54.2 54.8	57.8 58.0	22 22		48	56.0 55.3	57·3 56.9	22 22	
50	53.8	51.1	23 26 29		50 52	53.0 52.9	49.5	28 27		50 52	54.0 54.8	57·7 57.1	22 21	İ	50 52	55.2 55.8 56.8	56.5 56.9	21 22	
50 52 54 56 58	50.2	48.7	30 28		54 56	52.9 52.5	50.0	27 28		54 56 58	54.8 55.0	57·4 57·5	22 22		54 56 58	56.8 57.0	57.0 57.8	23 24	
58		50.4 55.1	21		58 24 00	50.3	47.8	31 34	1.7	58	54.4	56.9	21		58 20 00	57.0 57.8	58.0	24 25	-1.0

Correction to local mean time is + 39.5s. 90° torsion = 19.53. Torsion head at oh oom read 97° and at 24h 15m read 72°.

Observer-R. R. T.

Correction to local mean time is + 1s.

Torsion head at 15h 36m read 72° and at 20h 11m read the same.

Observer—J. V.

#### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sc. read Left	ings	East decli- nation	Temp. C.	Chr'r time	Sc read	lings	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem C.
n m	d	d	0 ,	•	h m	đ	d	• ,	•	h m	d	d	0 ,	0	h m	d	ď	. ,	
00	4I.5 4I.I	39·4 39·3	22 14	+1.8	22 00 02	29.9 29.1	28. I 27. 9	22 32	-0.8	0 00*	52.8	53.8	22 35	-0.3	2 00	43.8	47.9	22 57	-0.6
04	41.1	39.8	14		02	31.9	31.2	33 28		02 04	54.1 55.9	54·4 56.9	36 39		02 04	44.8 45.7	47.9 48.9	58 22 60	
06	43.3	40.4	12		06	29.1	29.0	32		06	54.I	55.3	37		06	47.9	51.0	23 03	
08 10	43.5	41.1 41.1	11		08 10	26.9 29.1	26.2 28.1	36		08	52.2	53.2	34		08	46.7	49.8	OI	
12	43.2	4I.I	12		12	34.0	33.7	33 25		10 12	51.7 46.2	52.8 48.3	33		I0 I2	46.I 47.I	49.0	00 02	
14	43.2	41.2	12	+1.2	14	35.0	33.9	24	-0.8	14	48.1	50.0	25 28	-0.4	14	47.7	50.3	02	-0.6
16 18	42.9 42.0	40.8	12		18 18	37.8	35.6	20		16	38.8	40.0	13		16	47.I	50.8	02	
20	42.8	41.0	I3 I2		20	26.7 29.7	24.9 24.3	37 36		18 20	40.8	42.3 43.4	16 18		18 20	46.I 45.I	49.4 48.8	23 00 22 <u>5</u> 9	
22	43.0	41.0	12		22	34.0	29.0	36 28		22	40.7	48.2	21		22	45.7	49.0	60	
24 26	41.6	40.I	14		24 26	36.2 36.8	32.0	24		24 26	33.3	40.9	09		24	45.3	48.3	59	
28	40.9	40.5 39.1	15		28	32.2	32.4 28.8	24 30		26 28	34.9 35.8	42.I 42.0	11		26 38	43.1 42.7	46.1 45.8	55 55	ì
30	40.7	39.I	15	+1.0	30	36.2	33.0	24	-0.9	30	43.8	49.9	24	-0.6	30	42.2	45.I	54	-0.3
32	40.0	39.8	15	1	32	38.9	37.6	18	1 1	32	54.0	65.4	45		32	42.6	45.9	22 55	
34 36 38	40.1	38.9 39.8	15		34 36 38	35.2 31.2	33.9 30.9	24		34 36	55.I 48.I	64.0	44		34 36	52.I 42.4	55.2 46.8	23 09	
38	38.4	37.9	15		38	29.7	29.0	32		38	51.1	57.7 $62.3$	34 40	i	38	24.0	28.I	22 55 26	
40	38.3	37.1	19		40	34.0	33.5	25 28		40.5	55.1	66.I	46		40	16.9	19.1	14	
42 44	37·7 38.8	36.4 36.4	20 19	+0.6	42	32.8	31.2 28.8	31	-0.9	42	56.2	68.9	49	0.7	42	16.2	18.1	12 10	-0.2
44 46 48	38.9	37.4	18	10.0	44 46 48	31.3	30.3	30		44 46	50.1	62.6 63.9	39 42	-0.7	44 46	14.7	17.2 26.3	25	-0.2
48	37.9 36.8	36.1	20		48	30.7	28.5	32		r 48	54.1	64.7	44		48	32.9	36.1	40	
50 52	36.9	35.0 35.3	22 2I		50 52	30.3	29.2 29.9	3I 3I		50 52	54.5	64.9	45		50 52	41.1	45.0	22 53 23 00	
54	36.6	35.0	22		54 56	31.9	31.0	29		52 54	51.1	61.3 61.0	39	:	54	45·3 45·5	49.9 48.2	22 59	
54 56 58	37.2	36.5	20		56	32.9	32.5	27 28	1	54 56	53.8	63.0	42		54 56	46.0	49.0	23 00	l
50 1 00	38.2 38.7	37.2 37.3	19	10.2	23 00	32.I 32.I	31.5 31.0	28	-0.8	58	56.2	64.3	45	-0.8	58 3 00	45.6	48.9 50.2	22 59 23 02	-0.1
02	38.7	37.2	18	10.2	02	33.9	32.1	26		I 00 02	53.2 56.5	61.0 64.2	41 46	-0.6	3 00	47.8	50.2	02	0
04	38.1	37.0	19		04	33.2	32.2	27 28		04	61.1	68.5	53 22 60		04	50.8	53.2	07	
o6 o8	37.9 37.8	36.5 37.6	20		06 08	35.9	.8b 35.8	20		06	65.7	73.1			o6 o8	48.9	52.7 55.8	05 11	
10	37.4	36.0	20		10	29.0		32		10*	46.5	74.9 55.5	23 02 05		10	53.7 58.9	60.9	19	
12	37.8	35.8	20		12	29.9	29.9	31		12	46.8	55.8	06		12	61.9	63.8	24	l
14 16	38.9	36.6 36.7	19	0.0	14 16	31.2 30.1	30.8	29 31	-0.9	14	47.2	57.9	23 08	-0.8	14	61.3	62.9 59.8	23	0.0
18	37.8	35.9	20		18	29.0	28.2	33		16 18	41.2 42.0	51.3 50.7	22 58 22 58		16	57.7 57.1	59.8	17 16	
20	37.1	35.1	21		20	27.0	26.9	33 36 36		20	43.5	52.1	23 00		20	57.2	59.6	17	
22 24	36.8 36.4	35.0 34.8	22		22 24	27.0 25.2	26.2 24.9	39		22	42.0	50.0	22 58		22	59.2	60.9	20 I9	
26	35.0	33.9	24		26	26.2	25. I			24 26	4I.3 4I.I	49.7 48.4	57 56		24 26	58.3	59.3	17	
28	34.2	33.5	25		28	26.5	25.0 24.9	38		28	41.1	48.2	55		28	54.8	57.1	13	
30 32	33.2 32.9		2ñ 27	-0.2	30 32	26.3	24.9	27 38	-0.9	30.1		49.7	55 58	-0.7	30	55.0	57.2	13	0.0
34	32.9	32.3	27 26		34 36	26.9	25.2	37		32	42.9 46.1	49.0	22 57 23 02		32	55·7 53·2	59.1 56.1	15	
34 36 38	33.2	33.1	26		36	28.1	27.0	35 36		34 36	47.0	51.9 52.1	03		34 36	57.7		23 17	
38 40	32.9 32.2		26 28		38 40	28.1	26.0 27.7	34		38	45.2	50.0	23 00		38	44.I	46.8	22 57	
42	32.1		28		42	28.5	28.0	34		40	42.2	46.9	22 55		40	46.2	48.1	22 59 23 08	
44 46	31.8	30.9	29 28	-0.5	44 46	28.1	27.7	34	-0.9	42 44	40.2	44.9 44.4	52 52	-0.7	42 44		54.0 53.9	08	+0.
46 48	32.2 33.5		28 27		40 48	29.0 29.1	27.0 27.4	34 34		46	39.9	44.6	52	0.7	46	51.2	54.4	08	
50	32.3		29		50	29.1		34		48	41.1	46. I	54		48	52.7	55.2	10	
52	33.5	30.9	27		52	29.2	27.5	33		50	43.1	47.9	57		50	49.6 48.1	52.8	06 03	1
54	35.8	33.7	23		54	29.2	27.5	34		52 54	44.5	49. I 49. 8	22 59 23 00		52 54	47.5	50.7	03	
52 54 56 58	34.0	33.6 30.9	24		54 56 58	28.0	27.5 26.8 26.2	34 35 36		54 56 58	43.3	47.2 46.2	22 56		56 58	47.8	49.9	02 01	

Correction to local mean time is — 2.5s.

Observer--J. V.

Observer-R. R. T.

Torsion head at 19h 42m read 72° and at 24h 13m read the same.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

	1				-		1				1		1	l	<u> </u>		<u> </u>	l
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.	Chr's time	Scr read Left	ings	East decli- nation	Temp C.
ı m	d d	0 ,	•	h m	d	d	. ,	•	h m	d	ď	0 /	0	h m	d	d	• ,	•
00	58.3 57.2 60.8 59.8	23 03	+0.3	6 00	24.1	20.0	23 59 38	0.0	8 00*	51.1	52.8	22 56	+6.4	10 00	47.7	50.2	23 00	+7.2
04	62.8 61.2	22 59 56	[ ]	02 04	36.9 28.9	34.0 26.9	38 50		02 04	50.8 49.3	52.7 52.2	56 54		02 04	44.1	46.6 45.1	22 54 52	
<b>o</b> 6	62.1 61.0	57		06	34.	5 <i>b</i>	39		06	50.3	53.8	54 56	1	∥ об	40.3	43.0	49	
08 01	63.0 62.1	55 54		91	39.6 38.8	37·9 37·5	32		08	50.9	53.8	57		08	34.4	37.0 33.0	39 34	
12	64.1 63.3	53		12	41.9	38.9	33 30		10.2	51.7 51.7	54·5 54·2	57 58 58 59 56		12	32.1	33.I	34	
14 16	63.9 63.0	54	+0.9	14	42.2	40.0	29	0.0	14	52.8	55.0	59	+6.2	14	31.1	33.2	34	+7.2
18	65.0 64.2	52 51		16 18	39.8 42.9	36. I 39.3	34		16 18	50.9 47.1	52.8 49.1	50		16 18	28.8 35.0	30.8 35.3	30 38	
20	64.9 64.0	52		20.5	38.7	34.2	29 36		20	48.2	49.9	52		20	35.9	37.1	41	,
22	65.2 64.0 64.6 63.1	52 53		22	56.2 41.0	50.4 38.5	10		22	51.1	53.0	52 56 58		22	47.I	48.9	59	
24 26	65.2 63.8	53 52		24 26	58.0	53.9	31 06		24 26	51.8 53.1	53.8 55.0	59		24 26	37·7 37·1	39.9 39.1	44 43	
28	65.2 63.7	52		28	45.7	41.2	25		28	49.9	52.0	55		28	36.3	37.2	41	
30 32	66.1 64.1	51 50	+1.0	30 32	45·3 40·9	39·3 36·9	27 32	0.0	30 32	46.8 46.1	48.1 47.3	49 48	+6.2	30 32	33.9 33.1	34.9 34.2	37 36	+7.2
34	65.9 64.8	51		34	34.1	30.2	43		34	47.9	48.9	51		34	31.4	33.1.	34	
34 36 38	62.9 61.5	56 22 57		34 36 38	39.9 38.9	37·9 35.8	32		34 36 38	49.2	50.9	53	1	34 36 38	28.9	32.9	32	
40	59.4 58.2	23 OI		40	28.9	25.2	35 51		40	18.5	.ob 24.I	52 22 08		40	29.9 32.5	33.0 34.6	33 36	
42	61.1 60.2	22 58		42	31.9	26.6	48		42*	52.7	56.8	21 20		42	29.3	32.9	32	l
44 46	60.1 59.1	60 58	+0.8	44 46	30.3 28.9	25.7 24.1	49 52	+0.2	44* 46	53.2 53.0	55·3 60.9	23 08 23 I3	+6.2	44	27.2 32.0	33·5 36·9	31 37	+7.0
44 46 48	64.5 63.2	53		48	41.5	37.9	31		48	37.7	39.9			44 46 48	33.5	39.9	41	
50	63.4 62.1	55		50	30.8	27.8	47		50	36.4	42.8	22 44 46		50	26.7	34.2	31	
52 54	61.9 61.1	57 50		52 54	37.I 42.I	34.8 39.0	37 30		52 54	31.9 37.1	37·5 44·I	38 47		52 54	27.1 27.9	32·3 33·9	30 32	
54 56	60.9 60.0	59 22 58		54 56	41.9	39.8	29		54 56	39.6	49.9	54 26		54 56	27.9	34.2	32	
58	59.7b	23 00	100	58 7 00	46.8	45·4 47·0	21 18	+0.2	58	21.9	31.9		+6.3	58 11 00	27.3	33·7 40.6	31 43	+7.1
00	54.2 53.7 56.9 55.9	09 05	+0.3	02	49.4 44.I	41.0	26	70.2	9 00 02	35.2 38.1	43.0 46.2	45 50	70.3	02	35.2	47.0	22 53	177.7
04	54.2 53.0	09		0.4	36.0	33.4	39 18		04	33.7	41.8	42		04	50.3	57.7	23 08	
об 08	57.1 56.2 56.1 55.6	04 06		06 08	49·7 47·5	46.1 44.1	21		06 08	41.1 40.0	48.1 46.8	53 52		об 08	54·4 45.1	65.1 55.5	23 02	
10	57.9 57.0	03		10	38.1	33.3	37		10	39.9	47.1	52		10	40.8	49.9	22 54	
12	55.8 54.9	06		12	42.6 46.9	38.0	30 23	+o.1	12	41.1	47.4	53	+6.7	12	32.1	40.1 38.9	40	+7.
14 16	54.I 52.7 56.9 55.5	10 05	+0.1	14 16	50.2	42.I 47.I	17	70.1	14 16	40.9 45.5	46.8 50.0	52 58	70.7	14 16	32.6 29.1	35.8	39 34	\T/.
18	54.9 53.I	08		18	52.2	48.3	14		18	42.9	47.8	22 54		18	26.1	32.8	30	
20	58.8 57.1	02 00		20 22	51.2 54.2	47.8 51.1	16		20 22	51.3 46.0	57·4 54.1	23 09		20 22	24.2	31.1	27 30	
22 24	60.9 58.1 60.7 58.0	23 00		24	50.8	48.0	16		24	53.3	57.8	23 10		24	24.2	30.8	27	
26	64.6 60.8	22 55		26	48.8	44.6	20		26	53·3 42·2 46·0	57.8 47.4 50.8	22 54		26 28	25.9 28.9 38.6	31.2	28	
28 30	58.0 57.3 50.0 47.1	23 03 17	+0.1	28 30	51.1 50.2	46.2	16 18	0.0	28 30	40.0	50.8 49.7	59 58	+7.0	30	38.6	34.1 43.0	22 33 47	
32	43.9 40.2	27	10.1	32	50.3	47.I	17		32	44.9 42.8	45.6	53 48	17.5	30 32	38.2	45.3	49	
34	49.8 47.0	17		34 36	50.0	45.9	18		34 36 38	40.3	41.9	48 46		34 36 38	34.I 35.7	41.0	42	
34 36 38	35.5 33.7 40.0 37.9	39 32		38	54.2 58.9	49.3 54.8	04	ŀ	38	39.I 4I.I	41.1 43.8	50		38	43.5	43·4 49·0	45 56	
40	34.0 33.I	41 38		40	60.0	56.0	02		40	37.3	39.2	43		40	45.2	51.4	59	+
42	35.0 34.9	38	0.0	42	61.2 63.6	56.0 58. T	23 01	+0.2	42	37·3 36·3	38.2 37.1	42 41	+7.1	40 42 44 46 48	42.9 43.9	47·9 47·3	55 55 46	+8.
44 46	39.9b 33.1 32.7	31 42	0.0	44 46 48	64.0 65.0	58.1 57.8	22 58 58 56 56 56 56	'	44 46 48	34.5	37.3	40	'/	46	38. I	42.I	46	'
48	22.9 22.2	42 58 48		48	65.0	58.8	56		48	43.0	45.6	53		48	33.8	37.4	39	)
48 50	29.7 28.7	48		50	65.9 65.3	58.3 58.1	50		50 52	43·7 40·5	45·4 42.0	53 48		50	34.9 32.9			
52	33.3 33.0 35.8 35.1	23 38		54	65.3	58.3 58.2	56		54 56	45.2	48.8	57 56		54	32.2	35.9	37	'
52 54 50 58	21.3 20.1	24 OI		50 52 54 56 58	65.3 64.9 66.1	58.2	57		56 58	45.2 44.8	48.4			50 52 54 56 58	35.9	39.0	42	1
58	30.7 29.0	23 46		8 00	67.8	бо. I бі. з	54 52	+0.8	58	41.2	45.9	52		12 00	31.1 32.2	34.8 34.0		+8.

Correction to local mean time is — 38s.

Torsion head at oh oom read 72° and at 8h 15m read the same.

Observer—R. R. T.

Correction to local mean time is — Im 04.5s. 90° torsion = 18.'90. Torsion head at 7h 30m read 76° and at 12h 18m read 63°. Observer—R. R. T.

		1904		1		-0-14-	scale inve				, , , , , , , ,	8, 1904	1		1		et scale	1
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation	Tem C.
h m	d d	0 /	0	h m	d	d	· ,	0	h m	ď	d	0 ,		h m	d	d	. ,	•
02 02	50.0 46.0 52.8 48.9	22 4I 37	+9.8	14 00 02	59·5 61.1	57.1 58.8	23 34 31	+8.1	0 00*	43.0	45.0 44.I	22 32	+1.5	2 00	48.9 48.3	50.0 49.3	22 4I 40	+1.
04	50.1 47.1	40		04	64.9	62.7	25		04	43.0	44.I	32		04 06	49.2	50.I	42	
o6 o8	48.8 45.8 49.2 46.1	42 42		06 08	71.4	69.2 70.0	15		06 08	43.0	44.I 44.I	32 32		08	49.0 47.5	50.2 48.3	42 39	
10 12	47.3 44.I 52.3 49.I	45 37		I0 I2	78.5 79.3	75.0 75.1	05 23 04		IO I2	42.9 42.2	43·5 42·9	31		10 12	47.2 48.3	48.2 49.1	39 40	
14	51.8 49.4	37	+9.7	14*	55.6	47.8	22 58	+8.0	14	41.8	42.I	29	+1.6	14	49.1	50.0	42	+1.
16 18	57.2 55.2 59.3 <i>a</i>	29 24		16 18	56.8	48.3 54.2	57 48		16 18	41.2	41.7	28 28		16	48.8	49.8 50.0	4I 42	
20	65.7 63.5	24 16 18		20	63.8	55.9 56.2	46		20.3	40.3	40.7	27 28		20 22	49.1	50.3	42 41	
22 24	64.0 62.0 63.6 59.8			22 24 26	63.9 64.2	57.9	45 44		22 24	41.1 41.2	41.1 41.8	20		24 26	49. I	50.0	42	
26 28	55.7 50.6 42.9 38.9	34		26 28	64.9 66.0	57·9 59·9	43 41		26 28	41.8	41.9 41.9	29		26 28	49.6	50.4 49.1	42 40	
30	36.1 33.1	23 03	+9.3	30	65.7	6о. г	41	+8.0	30	41.1	41.2	29 28	+1.4	30	47.9	48.9	40	+1.
32 34	33.0 27.2 29.4 25.2			32 34	64.7	58.3 55.1	43 50	1	32 34	41.0	4I.I 4I.9	28 29		32 34	48.2 48.3	49.4 49.6	40 40	
36	27.0 22.5	18		34 36 38	61.1 61.7	54.8 56.6	49 47		36 38	41.2	41.8	29		34 36 38	48.2	49.2 48.1	40 39	
38 40	24.2 20.0 27.0 22.0	23 19		40	65.8	59.6	47		38 40	42.0 42.I	42.I 42.I	29 30		40	47.3 47.8	48.8	40	
42	28.1 23.2 31.3 27.3		+9.2	42 44	70.4 68.1	64.9 64.8	34 36	+8.o	42	41.8	41.9	29 29	+1.5	42 44	48.6	49·3 47·5	41 38	+1.
44 46	37.9 34.7	23 01	19.2	46	71.3	68.5	30	10.0	44 46	41.5 41.1	41.7 41.5	28	71.3	46	44.I	45.3	34	٠.
48 50	46.1 42.9 51.9 47.8			48 50	72.0	69.2 72.2	29 25		48 50	41.8	41.9 42.3	29 30		46 48 50	43.9 44.5	45·3 45·9	34 35 38	
52	54.0 49.8	36		52	74.1 75.8	72.0 73.1	25 23		52	42.8	43.I	31		52	47.0 49.5	48.0 50.9	38 43	
54 56 58	52.9 48.9 50.7 47.2			54 56	72.2	69.8	29		54 56	43.3	43.9 44.0	32 32		54 56	51.0	52.1	45	
58	49.1 46.7		+9.1	58 15 00	69.1	67.9 65.3	32 36	+8.o	58 1 00	43.I 42.9	44.0	32 31	+1.6	58 3 00	50.9	51.8	44	+1
02	30.0 36.0	22 59	19.1	02	73.0	69.6	28	•	02	42.7	43·3 43·3	31	1110	02	52.3	52.9	46 46 48	
04 06	34.7 32.6 32.2 29.8	00		04	74.9 71.9	73.0 70.5	24 28		04 06	42.8	43.2 43.7	3I 32		04 06	52.I 53.8	52.5	48	
08	34.6 29.8	07		08	63.1 62.3	62.1	42 44	1	о8	44.8	45.0	34 36		08	53.0 55.0	53.8 55.2	48 50	1.
10 12	18.5 15.0	39		12	64.6	62.9	40		I0 I2	45.9 46.1	45·9 46.2	36		10	56.1	56.8	52	
14 τ6	12.5 8.3	41	<del>- -</del> 9.1	14 16	66.4	63.9 67.8	38 33	+8.0	14 16	46.1	46.2 46.2	36 36	+1.6	14 16	54.2 55.7	54.8 56.1	50 52	+1
τ8*	61.0 49.0	38		18	71.8	69.8	29		18	45.8 45.7	46.0	36		18	57.2	57.8	54	
20 22	65.9 51.2 53.9 42.7	33		20 22	70.9	69.8 71.0	30 28		20 22	45.7	45.9 46.0	36 36		20 22	56.7 56.5	57.0 57.0	8 53 53	
24	56.0 45.1	46	1	24	74.9		24 15		24	45.6	45.8	3.5		24	55.1	56.0	51	
26 28	52.9 42.3 54.5 45.1 57.9 48.8 56.9 47.9 58.8 50.9	50 47		26* 28	54.2 54.8 56.7	49.2 52.3 52.8	12		26 28	45.1 45.0	45·3 45·1	35		26 28	50.1 59.1 58.4	56.4 59.8	57	
30	54.5 45.1 57.9 48.8	41	+9.0	30 32	56.7	52.8 52.1	I0 I2	<b>+7.</b> 9	30	45.0	45.I	34	+1.5	30	58.4	59.8	22 57 23 02	+2
32 34	56.9 47.9	40		34	59·3 62·9	52.1 55.8 58.2 60.9	<b>o</b> 6		32 34	44.2	45.0 45.1	34 34		32 34	62.2	64.0	03	
34 36 38 40 42	100.3 52.0	37		34 36 38	65.1	58.2 60.9	22 0I 21 57		36 38	44.4	45.1 46.1	34 36		34 36 38	63.5 62.9	64.8	05 04	
40	61.8 55.7	33		40	69.1	64.I	52		40 42	45.5 45.9 46.1	46.2	36		40	63.9	65.9	00	
42	66.0 60.1	26	+8.7	42 44	69.2 73.1	67.0	52 46	+7.8	42	46.1 46.3	46.3 46.7		+r.4	42 44	64.3 64.2	66.8 66.0	97 06	1+2
44 46 48 50 52 54 56 58	65.3 61.0	26	3.7	46*	49.6	43.0	33		44 46	47.7	48.0	39	1 - 1 - 1	44 46 48	64.2 66.1	67.8	: 09	
48 50	65.7 62.2 66.0 62.8	: 25	1	48 50	51.0	43.2 45.7	32 29		48	48.2 49.0	49.0 49.9	40 41		48 50	68.2	68.9 69.6	12	- 1
52	66.8 64.6	22		52	53.2 49.8	42.8	33		50 52 54 56 58	49.9	50.8	43		52	69.5	70.5	14	
54 56	72.0 70.5 66.3 65.9	14 22		54 56 58 16 00	48.4 44.0	36.2	36 43		54	49.2 49.0	50. I 49. 9	42 41		54 56	68.2	69.9 69.7	13	
58	63.1 60.1	20		58	36.3 36.3	29.I 34.I	55	+7.6	58	49.7	50.7	42		59	66.1	68.1		

Correction to local mean time is — Im 31.5s. 90° torsion = 15.'46. Torsion head at 11h 35m read 72° and at 16h 10m read 50°. Observer—R. R. T.

Observer-J. V.

	inesday, June	0, 1904	1		Mag 	net scale	erect	We	dnesday	, June	8, 1904				Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp C.
h m 4 00	d d	0 /	•	h m	d d	0 ,	•	h m	- d	d	• ,	0	h m	đ	d	. ,	-
02	69.8 70.3	23 IO I4	+2.1	6 00 02	58.5 <i>a</i> 60.3 60.4	23 3I 34		8 00	33·7 32.8	35.0	22 53	+4.5	10 00	35.3	35.8	22 55	+5.3
04 06	70.9 71.8 68.8 69.1	16		04 06	53.2b 48.2 48.8	22		04 06	37·3 36.9	34.0 38.3 38.0	52 58		02	34.0 32.6	$34.3 \\ 32.8$	53 51	
08.4 10	67.8 68.9	80		08 10	49.0 49.5 49.1 49.9	15 16 16		08	36.8	38.0	58		06 08	33.0	33·3 33·6	51 52	
12 14	67.8 68.9 66.2 68.9	11	+2.2	12 14	47.0 47.7	13 16		10 12	36.4 35.8	37.6 37.1	56		I0 I2	33.2 32.8	33.8 33.3	52 51	
18 16	64.0 65.1 63.8 64.9	05 05		16	54.2 55.1	24	+3.0	14 16	35·5 34·0	37.0 35.1	53	+4.7	14 16	31.3 36.4	32.0 36.6	49 57	+5.6
20 22	68.9 69.2	12		20	53.9 54.9 53.8 54.2	24 24		18 20	36.0 35.6	36.6 36.8	56		18 20	31.6	32.0 31.6	49 49	
24 26	74.9 75.2	16		22 24 26	51.5 52.1 50.7 51.2	20 19		22 24	34·5 36·3	35.5 36.6	54 56		22 24	33.0	33.5	52	
28	77.2 78.1 75.7 76.0	26 23		26 28	50.0 50.3 48.2 48.4	18		24 26 28	33.8 35.0	34·5 35·9	53		26 28	36.4	35.0 36.8	54 57	
30 32	75.1 75.1 69.5 70.0	22 14	+2.2	30 32.5	51.9 52.0	20 26	+3.1	30	36.6	37.2	55 57	+5.0	30	30.5 31.2	30.6	4 <b>7</b> 49	+5.8
34 36 38*	73.7a 78.0 78.2	20 27		34 36	55.0b 52.0 52.8	25 21		32 34	37.0	37·5 35·0	57 54		32 34	31.0 30.6	31.2	49 48 48	
38* 40	52.8 56.9 54.0 58.6	24 27		<b>3</b> 8	53.8 54.1	24		34 36 38	36.7 37.3	37.6 37.5	57 58		36 38	30.5	30.8	47 48	
42	54.2 58.0 56.2 59.0	27	10.	40 42	54.0 54.2 57.0 57.9	24 29		40 42	35.2 36.3	36.0 37.0	55 57		40 42	30.2 29.5	31.0	47 48 47 46	
46	56.2 58.8	29 29	+2.5	44 46	51.1 52.0 51.8 53.1	20 21	+3.2	44 46	34·3 34·9	35.0 35.5	53 54	+4.8	44 46	29.7 30.3	30.0	46	+5.8
48 50	56.5 58.9 59.0 61.2	29 33	H	48 50	50.3 51.8 50.8 51.4	19 19 28		48 50	33.8	34.6 35.6	53 54		48	29.3	29.5	47 46	
52 54 56	59.2 61.9 60.2 62.8	34 35		52 54	56.0 57.0 51.6 52.9	28 21		52	33.2	33.8 34.8	52		50 52	28.3	28.5	45 44	
56 58	60.8 62.9 60.2 61.9	36	+2.7	54 56 58	48.9 49.0	15 12		54 56 58	37.0	37.0	53 57		54 56	20.3	29.5	45 46	
00	56.1 58.1 61.0 62.1	34 28 35		7 00	46.3 47.1 48.8 50.2 54.1 55.0	17 24	+3.4	9 00	37 - 4	37.0 37.6	22.58	+4.5	58 11 00	28.0	28.6 28.3	44 44	+5.6
6	64.9 66.9 66.1 67.6	42		04 06	47.5 47.9	14		02 04	36.9	39.0 37.3	23 00 22 57 58		02 04	27.3 27.5	27.7 27.5	43 43	
8	62.2 64.0	44 38	II	о8	46.9 47.8	13		o6 o8	36.6	37.6 37.0	58 57	li	o6 o8	27.8	28.0 28.0	43 43	
I0 I2	61.4 62.8 65.0 65.9	36 41		I0 I2	48.0 48.3 45.9 46.9	14 12		IO I2	34.2 35.4	34.8 35.8	53 22 55		IO I2	26.6	27.0 27.6	42	
14	64.7 65.7 65.0 65.1	4I  -	+2.8	14 16	46.0 46.9 45.9 46.1	12 11	+3.9	14 16	38.2	38.6 34.6		+4.6	14 16	27.3	28.0		+5.5
8	64.1 66.0 72.6 73.8	41 54	.	18 20	42.I 42.8 45.0 45.7	06 10		18	34.6	34.8 36.4	54 22 56		18	25.5	26.0 26.0	40 40	
2	71.8 73.6 72.9 74.8	53 55		22 24	43.8 <i>b</i> 42.8 43.8	o8 07		22	2X X ·	20 6 I	23 OI		20 22	26.3	27.3 26.9	42 41	
26	62.1 65.2	38		26 28	44.8 45.0	09		24 26	38.1 35.3 34.4 35.5 36.2	38.8 35.8	23 00 22 55	İ	24 26 28	26.6 26.3 26.5 27.3 25.6	27.0 27.0	42 41	
o ¦	74.9 77.1	32 58 38 26	1-2.9	30	41.0 42.1	02 04 <b>0</b> 6	+4.2	28 30	34·4 35·5 36·2	35.0 35.6	54	<del> -</del> 4.9	28 30	26.5 27.3	27.0 27.0 27.8	42	+5.2
2	54.8 57.0	38 26		32 34	42.3 43.2 41.1 42.8	00 05		32	36.2 35.6	36.8	57 55		32	25.6	26.0 25.0	43 40 38	1 3.2
8 ] ,	56.9 58.2 59.3 61.0	29 33		34 36 38	38.6 39.9 39.9 41.1	00 03	] }	34 36 38	33.3 3	35.8 33.6 34.6	52 53		34 36 38 40	25.3	26.3	40	
O ],	59.9 61.0 57.0 57.8	34	-3.0	40 42	39.9 41.1 38.2 39.4 38.2 39.9	00		40	34.8	35.4	54		40	23.0	25.6 24.2	39 37	
4 !	51.1 52.1 19.0 50.2	20 16		44 46.6	38.0 40.0 36.8 38.5 38.2 40.0		+4.3	42 44	32.0 3	33.3		<del> </del> 5.0	42 44	23.8	23.7 24.6	36 38 -	<del>+</del> 5.0
8	56.1 56.7	27		48	38.2 40.0 36.8 38.2	23 00		48	33.3 3	33.1	51 52		46 48	23.5 : 23.0 :	24.3 23.6	37 36	
2   5	57.9 58.1 57.2 57.8	30 29		52	37.1 38.1	22 58 58 56		50 52	32.5 3 32.3 3	3.1	51 50		50 52	23.8 : 26.0 :	24.6	38 41	
2 4 5 5 8	36.5 57.0 3.0 53.8	28 23		56	35.9 36.8 35.2 36.0	56 55 58		54	34.6 3	4.8 3.6	54 52		50 52 54 56 58	26.3 25.5 25.3	26.8	4I	
8	51.1a	19		58	37.0 38.1	58		58	31.3 3	1.4	48	i i	58	25.3	25.5	40 40	

Observer-J. V.

Observers—J. V. and W. J. P., who alternated from 8h o6m to 8h 16m.

Chr'r time	Sc. read	_	East lecli- lation	Temp. C.	Chr'r time	Scaread	ings	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp
h m	d	d 26.0	0 /	0	h m	d 17.8	d 17.8	22 28		h m	d	d	22 18	0	h m	d	d	0 ,	•
2 00	25.3 25.0	25.5	22 40 39	+5.0	14 00 02	16.8	17.0	22 26 26	+4.5	16 00.2 02	11.1	I2.2 I0.9	22 I8 I7	+5.3	18 00	IO.2 IO.2	11.8	22 18 18	+5.3
04 06	24.8	25.0 25.0	39 39		04 06	15.0 15.7	15.3 15.7	24 25		04 06	10.1	10.8	17		04 06	10.6	12.1	18	
08	24.0	24.8	38 38		08	15.0	15.3	24		08	9.3 9.1	9. <b>7</b> 9.9	15		08	10.2	11.9	18	
10 12	24.3 23.6	25.0 24.3	38		10 12	11.9	12.0 12.3	19		I0 I2	10.0	10.8	17		10 12	10.9 12.2	I2.2 I3.9	19 21	
14	22.8	23.6	37 36 38 38	-i 5.0	14	11.0	11.3	17	+4.6	14	14.2	15.2	23	+5.3	14	12.0	13.1	20	+5.1
16 18	23.8	24.6 24.5	38		16 18	15.8 16.3	16.2 16.6	25 26		16 18.6	17.1	18.1	28		16	12.2	14.0	21	
20	23.3	24.0	37 36		20	16.5	16.8	26		20	20.7 21.1	21.9	33 34		20	12.5	14.1 13.1	22 20	
22	23.0	23.6 22.6	36 34		22	16.8	16.9 17.2	26 27		22	20.8	21.2	33		22	11.2	12.4	19	
24 26	20.8	21.3	33		24 26	16.3	16.6	26		24 26	16.2	19.7 17.2	31 27		24 26	11.9	12.7 13.6	20 21	
28 30	20.6	21.0	32 32	+4.9	28 30	15.7	15.9 14.3	25 22	+4.9	28 30	14.8	14.8	23 20	+5.4	28	14.9 15.8	15.7 16.8	25 26	
32	20.0	20.6	32	14.9	32	14.8	15.0	23	פידו	32	12.3	13.1	22	₹3.4	30 32	17.2	17.2	28	+4.8
34 36	20.3	20.7 21.0	32 32		<b>34</b> 36	13.8 13.8	14.0 13.8	<b>22</b> 22		34 36	11.1	12.3	19 15		34 36	17.1	17.2 16.8	28	
38	20.3	20.6	32		38	14.0	14.0	22		38	9.2	10.1	17	,	38	16.3 15.8	15.9	27 26	
40	20.0	20.3	31 31		40 42	13.6	13.7 14.3	21 22		40	11.2	11.9	1		40	15.6	16.1	26	
42 44	19.4	19.8	30	+4.8	44 46	13.8	15.7	22		42 44	13.5 13.1	13.9 13.5	22 2I	+5.6	42 44	15.9 15.7	16.3 16.2	26 26	+4.6
44 46 48	19.7	20.0	31		46 48	13.2	13.4 12.8	2I 2I	+5.0	44 46 48	13.2	13.6	21		46.4	15.9	17.2	27	
50	19.8	20.6	31 32		50	12.3	12.6	20		46 50	13.0 13.1	13.2 13.7	2I 2I		48 50	16.1 17.1	18.0	27 29	
52	20.8	21.2	33 32		52 54	12.2	12.5 12.6	19		52	13.2	13.8	22		52	18.2 18.9	19.7 20.6	30	ļ.
54 56	20.3 20.1	20.6	32		56	12.0	12.3	19		54 56	13.9 13.1	14.3	22 22		54 56	19.1	20.8	32 32	ì
58	20.6	20.8	32 30	+4.6	58 15 00	11.9	12.1 12.8	19 20	+5.2	58	13.0	13.8	22		58	18.9	20.4	32	
00	19.2	19.8	30	74.0	02	13.3	13.4	21	1 3.2	17 00 02	13.0 13.0	13.9 13.2	22 2I	+5.5	19 00 02	19.0	19.8	31 31	+4.
04	19.5	19.7	31		04 06	14.2	14.2 13.8	22 22		04	12.9	13.1	21		04	18.3 18.2	19.1	30	
06 08	18.8	18.9	29 30		08	13.8	14.2	22		06 08	I2.6 I2.2	13.1 12.7	2I 20		06 08	18.4	18.9 18.9	30 30	
10	18.5	18.0	29		10 12	13.0	13.3 12.8	22 21		10	12.4	12.9	20		10	18.1	18.3	29 28	
12 14	18.8	19.1 19.0	30 30	+4.5	14	12.5	12.3	19	+5.3	12 14	13.0 13.1	13.5 14.0	2I 22	+5.5	12	17.3 17.2	18.0	28	+4.0
16	18.8	19.0	30		16 18	II.4 II.0	II.4 II.2	18 18		16	13.0	14.1	22	100	16	16.0	17.1	27	'
18 20	18.6	18.8 19.6	29 30		20	10.3	10.7	17		18 20	12.7 12.6	13.9 13.6	2I 2I		18	15.6 16.2	16.8 17.8	26 27	
22	19.5	19.6	30		22	10.3	10.3	16		22	12.1	13.1	20		22	17.9	19.1	30	
24 26	19.8		31 31		24 26	8.2	9.4 8.4	13		24 26		12.8 12.4	19		24 26	18.7 19.1	20.0	3I 32	
28	19.9	20.3	32		28	7.3 7.8 8.0	7.5	12		28	II.I	12.1	19		28	19.1	20.7	32	
30 32	19.3	19.8 19.9	30 31	+4.4	30 32	8.0	7.9 8.0	13		30 32	10.9	12.1	18	+5.7	30 32	19.1	20.5 21.4	32 33	+3.
34	19.0	19.3	30		34	8.5	8.9	14 16		34	11.0	II.O	18		34	20.0	21.9	34	
34 36 38	19.6	19.9 20.3	31 32		34 36 38	10.2	10.4 13.1	20		34 36 38	10.3 10.1	10.9 10.5	17 17		34 36 38	20.1 19.8	21.5 21.1	34 33	
40	19.6	19.8	31		40	13.6	14.0	22		40	9.7	10.3	16		40	19.8	20.9	33	
42	19.5	19.5 19.2	30	+4.5	42 44	13.5 13.8	13.7 14.0	22 22	+5.3	42	9.2			+5.8	42	19.9 19.8	21.0	33 33	+3.
44 46	18.8	18.8	30 30	14.5	44 46	14.0	14.3	22	,	44 46	10.2	II.I	17	13.0	46	19.8	20.5	32	' '
46 48	18.5	18.5	29		48	13.2 12.6		2I 20		48		II.2 II.7			44 46 48 50	19.5	20.I 19.5	32 31	
50 52	18.3	18.3	29 27		<b>50</b> 52	12.7	13.1	20		50 52		11.7	17		52	18.8	19.1	30	
50 52 54 56 58	16.9	16.9	27 26		54 56 58	12.3	12.7	20		54 56 58	10.3	11.2	17		52 54 56 58	18.2	18.9	30	
56 FR	17.3	17.3 18.0	27 28		50	12.5	13.1 12.8	20 20		58		11.2 11.3	17	*****	50	17.9	18.2 18.4	29 29	

Observers—W. J. P. and R. R. T., who alternated from 15h 52m to Observer—R. R. T. 16h 04m.

Chr'r time	read	ale lings Right	East decli- nation	Гетр. С.	Chr'r time	read	ale ings Right	East decli- nation	Гетр С.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem C.
h m	d	ď	· ,	•	h m	d	d	. ,	•	h m	d		. ,	•	h m	d		• ,	-
0 00	17.9	18.9	22 30	+3.5	22 00	17.5 17.8	18.0	22 29	+3.1	τ6 00	42.0	40.4	22 25	+2.5	18 00	44.3	42.2	22 21	+2.0
02 04	18.1	20.9 21.4	3 î 33		02 04	17.8	18.7 18.9	30 30		02 04	41.9 42.5	40.2 39.0	25 26		02 04	44.I 43.7	42.I 41.I	2I 22	
06	19.0	21.1	32		06	18.3	19.1	30		06	42.I	38.9	<b>2</b> 6		06	42.9	40.8	23	
08 10	18.9	21.0	32 31		08	18.7 18.9	19.5 19.7	31 32		08	42.5 42.7	39.0 39.3	26 25		08	42.I 42.I	40.2 40.7	24 23	
12	17.8	20.0	31		12	18.9	19.8	32		12	42.4	39.8	25		12	42.6	41.2	22	
14 16	18.5	20.8 20.6	32 32	+3.5	14 16	19.0	20.0 20.I	32 32	+3.0	14 16	42.5 43.0	40.0	25 24	+2.6	14 16	42.6 42.1	41.8	22 23	+2.
18	18.9	20.8	32		18	18.9	20. I	32		18	44.0	41.8	22		18	41.9	40.9	23	
20 22	20.0	21.5 22.1	34 34		20 22	18.9	20.0 20.1	32		20 22	43·9 45·2	42.8 43.2	22 20		20	41.9 42.0	40.2 41.8	24 22	
24 26	19.8	21.1	33		24	19.1	20.I	32		24	45.9	43.9	19		24	41.9	40.8	23	
28	17.8	19.1 18.2	30 28		26 28	19.1	20.I 20.3	32		26 28	45.0 44.9	43·3 43·2	20 21		26 28	42.0 42.1	40.6	23 23	
30	17.1 18.1	18.3 18.9	29	+3.5	30	19.8	20.9	33	+2.9	30	45.0	43.3	20	+2.6	30	41.9	40.I	24	+2.
32 34	18.2	2I.I	30 32		32 34	20.2	2I.I 2I.4	34 34		32 34	44.9 43.2	42.8 41.8	2I 23		32 34	4I.4 4I.I	39·9 39·9	25 24	İ
36 38	19.1	21.9	33		36 38	20.9	21.8	35		36 38	43.1	41.0 41.0	24 24		36 38	41.2	39.8	24	
30 40	18.5	21.2 19.8	32 30		40	2I.0 2I.I	21.8	35 35		40	43.0 42.2	40.2	25		40	41.3 42.5	40.I 41.I	24 22	
42	15.8 16.0	18.4 18.9	28 28 28	12.4	42	21.4	22.0	35 36	+2.9	42	42.2 42.2	40.2 40.8	25 24	+2.5	42	43.0	41.9 41.0	2I 22	+2.
44 46	15.6	19.2	28	+3.4	44 46 48	22.0	22.4 22.8	36	T2.9	44 46	42.I	40.5	24	12.5	44 46	42.9	41.9	21	72.
48.4 50	15.5 16.1	18.8 19.0	28 28		48 50	22.3	23.2 23.7	37		48 50	42.5 42.5	40.9 40.9	24 24		48 50	42.I 4I.9	4I.5 4I.3	22 23	
52	17.1	19.3	30		52	23.1	23.8	37 38 38 38		52	42.7	40.9	24		52	41.8	41.2	23	
54 56	17.0 16.1	19.1 18.9	29 28		54 56	23.0	23.7 23.3	38		54 56	42.2 41.9	40.8	24 25		54 56	41.I 42.I	41.1	23	
58	16.1	18.7	28		58	22.2	23.4	37		58	41.9	40.8	24		58	42.6	41.1	22	١.
1 00	15.7	18.1 17.0	28 26	+3.3	23 00	22.I 22.5	23.3 23.4	37	+2.8	17 00 02	4I.5 4I.9	40.5 41.2	25	+2.2	19 00 02	42.2 42.1	4I.I 4I.0	22 22	+2.
04	14.5	16.7	26		04	22.6	23.7	38		04	41.9	41.2	24		04	42.I	40.9	22	
06 08	14.1 14.1	16.3 16.2	25 25		06 08	22.9	23.8 23.9	38		06 08	42.0 42.0	41.8 41.7	23 24		06 08	41.2 41.6	40.7	23 23	
10	14.2	16.8	25 26		10	23.0	23.8	37 38 38 38 38 38		10	42.0	41.3	24		10	41.7	41.1	23	
12 14	14.6 14.6	16.7 16.0	20 25	+3.2	12 14	23.I 23.I	23.9 23.9	38	+2.8	I2 I4	4I.I 4I.7	40.3 41.2	25 24	+2.1	I2 I4	41.2 42.0	41.0	23 22	+2.
16	14.3	16.0	25		16	23.7	24.3	39		16 18	41.2 41.8	40.6	25		16 18	41.9	41.6	22	1
18 20	I4.2 I4.9	15.9 16.1	25 25		18 20	24.7 25.1	25.1 25.3	40 41		20	41.3	40.9 40.6	24 25		20	41.9 42.1	41.1 41.9	22 21	}
22	15.2	16.6	25 26		22	24.8 24.8	25.0 25.0	40 40		22 24	41.8 42.2	40.8 41.0	24 24		22 24	42.2	42.1	2I 2I	
24 26	15.0 15.0	16.2 16.6	20 26		24 26	24.0	25.2	41		26	43.5	42.5	21		26	42.5 42.2 42.6	42.4 41.9	21	
28	16.3	17.2	27	1.0	28	24.9	25.3	4I 4I	+2.5	28 30	44.0 44.7	42.I	2I 20	+2.1	28	42.6 42.2	41.9	21	10
30 32	18.1 18.7	18.9 19.1	30 31	+3.2	30 32	25.0 25.1	25.4 25.4	41	T2.3.	32	45.2	43·3 43·9	19	72.1	30 32	42.2	4I.3 4I.3	22	+2.
34	18.7	19.1	31		34 36	25.I 26.0	25.8 26.3	41 42		34 36	44.9 44.1	43·9 43·5	20 20		34 36	42.3	41.2 41.9	22 2I	
34 36 38	19.0 18.2	19.5 19.1	31 30		38	27.0	27.8	44		38	42.8	42.I	22		38	42.9 43.8	42.3	20	
40	17.3	18.2	29		40	27.2 27.5	27.8 28.0 28.1	45 45		40	42.2 42.0	42.0 41.4	22 23		40 42	42.9 43.0	41.5	2I 2I	
42	17.8 18.0	18.4 18.6	30 30	+3.2	42 44	27.3	28.1	45	+2.2	42 44 46	42.5	41.I	23	+2.1	44	43.I	42.2	20	+2
44 46 48 50	17.8	18.1	29		44 46 48	27.I 26.8	27.9 28.0	45 44		46 48	42.9 43.9	41.0 41.9	23 21		44 46 48	43.8 44.0	42.8 43.0	19 19	
48 50	17.2 17.1	18.0 17.9	29 29		50	26.6	27.7	44		50	44. I	42.I	21		50	45.0	44.6	17	
52	17.0	17.4	29 28		52	26.1	27.2 26.4	43 42		52 54	43·9 43·9	41.9 41.9	2I 20		52	44.8 44.8	44.2	17	
52 54 56 58	16.9 16.9	17.3	28 28 28		54 56 58	25.3 25.1	<i>2</i> 6.1	42		54 56 58	44.9	42.9	20		50 52 54 56 58	44.8	44.2 44.2	17	
58	17.1	17.8	28		58 24 00	25.0 24.9	26.1 26.0	42 41	+2.1	58	44.9	42.8	21	+2.0	20 00	43.9 44.3	43·5 40.9	18 20	

Correction to local mean time is + 07.5s. 90° torsion = 17.'94. Torsion head at oh oom read 60° and at 24h 20m read 41°. Observer—R. R. T.

Correction to local mean time is + 15s. 90° torsion = 17.78. Torsion head at 15h 37m read 42° and at 20h 19m read 60°. Observer—J. V.

#### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

rrida	ıy, June	10, 1	904				Magn	et scale	erect	Sunc	lay, Ju	ne 12,	1904			M:	agnet :	scale inv	verted
Chr'r time	Sca readi	ings	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp.	Chr'r time	reac	ale lings Right	East decli- nation	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Tem C.
h m	- d		. ,	•	h m	d	d	0 ,	•	h m	d	d	· ,		h m	d	d	0 ,	-
0 00	49.0	49.6	22 30	+4.8	22 00	49.4	50.4	22 30	+3.0	0 00*	52.5 52.1	51.2 50.8	22 23 24	+2.0	2 00 02	34.9 36.0	34.0	22 50	+2.
02 04	48.7 47.1	49.9 50.3	30 28		02	48.9	50.1 49.0	30 28		04	52.0	50.9	24		04	35.8	35.0 35.2	48 48	
06 08	47.0 46.3	50.1 49.6	28 27		06 08	46.2	47.I	25		06	52.0 52.0	50.5 50.8	24 24		06 08	34.9	34.2	50 52	
10	46.0	49.0	27		10	44.7 43.1	45·3 43·9	23 20		10	51.8	49.9	24		10	32.1	31.6	54	
12 14	45.9 45.9	48.9 48.9	26 26	+4.5	12 14	42.I 42.I	43.I 42.9	19 19	+3.0	I2 I4	52.5 51.1	51.1 50.2	23 25	+1.9	I2 I4	32.1	31.8	54 55 56 55 56 55 55 56	+2.0
16	45.7	48.3	26	14.3	16	41.7	42.7	18	13.0	16 18	50.9	49.7	25 28		16	31.1	30.1	56	
18 20	45.0 44.3	47.9 47.1	25 24		18 20	41.0	41.9 41.6	17		20	49.I 47.2	48.1 46.1	31		20	31.4	30.8	55	
22	44.3 44.8	47.0	24		22	40.2	41.0	16		22	46.2 46.8	45.8 45.9	32 31		22 24	3I.3 3I.2	30.9 31.0	55	
24 26	44.8	47.0 47.0	24 24		24 26	39.8	41.0 40.2	15 14		24 26	46.0	45.I	33		26	31.1	30.4	55 56	
28	45.0	46.9	24		28	39.8	40.3	15	1.00	28 30	45·5 45·9	44.8 45.1	33 33	+1.9	28 30	30.9	30.0 29.1	56 57	+2.0
30 32	45·3 44·9	47.1 46.9	25 24	+4.I	30 32	39.9 40.0	40.6 40.9	15 15	+2.8	32	47.0	46.0	31	12.9	32	20.5	27.8	22 59	72.0
34 36 38	43.2 42.1	45.2 44.2	2I 20		34	40.I	41.1	16		34 36 38	46.6	45.7 45.1	32 32		34 36 38	28.3 28.8	26.3 25.1	23 OI 02	
38	42.6	44.9	21		34 36 38	40.7 41.0	41.8 42.0	17 17		38	44.9	43.9	34	3.5		28.1	26.1	02	
40 42	43.2 44.0	45.6 46.1	22 23		40 42	42.0 43.0	42.8 43.2	19		40 42	44.0	43.I 40.7	36 40	12	40 42	28.1 29.0	26.7 27.1	10 00	
44 46	44.2	46.3	23	+4.0	44	43.1	43.5	20	+2.7	44 46	42.I	4I.I	39	+2.0	44	28.9	27.I	00	+2.5
46 48	44.I 44.2	46.8 46.8	23 24	]	46 48	43·4 43·2	43·9 43·9	20 20		48	41.0 38.9	40.0 38.2	40 44		46 48	28.9 28.5	26.9 26.8	00 23 0I	
50	44.I	46.1	23		50	43.3	43.7	20	1	50 52	37.7	37.I	45		50	29.9	27.5	22 59	
52 54	44.0 44.1	45·9 45·9	22 23		52 54	43.5	43·7 43·9	20 2I	į	52 54	38.1	37.8 37.1	45 45	i	52 54	29.2 28.0	27.5 25.9	23 00 02	
54 56 58	44.3	45.9	23		56	43.8	44.I	21		54 56 58	37.1	36.7	45 46		56 58	27.9	25.7	02	
58 1 00	44.2 44.I	45·3 45·I	22 22	+4.0	58 23 00	43.I 42.4	44.0 43.9	20	+2.7	1 00	36.3	35·7 33·3	48	+1.9	3 00	27.2 27.1	25.I 25.0	03 03	+2.2
02	44.0	45.7	22	14	02	42.6	42.9	- 19	1 - 3	02	33.0	32.I	53		02	27.8 28.8	25.7 26.7	02 01	
<b>0</b> 4 <b>0</b> 6	44.2 44.1	45·9 45·7	23		04 06	41.8	42.0 41.0	18		04 06	32.9	32.0 35.0	53 49		04 06	29.2	27.I	23 00	
08	44.0	45.9	22		08	40.0	40.1	15		10	38.0 39.1	37.1 38.9	45 43		08	30.6	29.0 30.0	22 57 56	
IO I2	45.0	46.4 46.3	24 24		I0 I2	39.5 39.1	39.8 39.5	14 14		12	40.2	39.1	42		12	31.8	30.0	56	
14 16	46.9 47.8	48.2	27 28	+3.9	14 16	39.5	40.0 41.5	14	+2.8	14 16	37.9 36.9	37.0 36.1	46 47	+1.8	14 16	32.0	30.0 29.2	56 57	+2.1
18	48.1	49.1 49.8	29		18	40.9 39.9	40.9	17		18	36.8	35.9	47		18	30.0	28.2	58	
20 22	48.8	49.9 50.5	30 30		20 22	40.1 40.3	41.1 40.7	16		20 22	37.9 38.0	36.9 37.0	46 45		20 22	30.2	28.5 28.1	57 58 58 22 58	
24	50.0	51.0	31		24	39.3	40.3	15	] ]	24	39.0	38.1	44		24	29. I	27.0	23 00	
26 28	50.0	50.8 50.6	31 31		26 28	39.7	40.4 41.2	15 16		26 28	38.1 37.9	36.9 36.8	45 46		26 28	28.1 29.0	26.0 26.8	22 59 23 00	+2.0
30	50.2	50.9	31	+3.7	30	41.0	42.0	17	+2.7	30 32	37.2	38.9	44	+1.9	30	29.9	27.I	22 59	
32 34 36 38	50.1 50.0	50.9	31 31		32 34	42.8	44.2 44.7	20 2I		32 34	36.0 35.5	34.2 34.9	49 49		32 34	29.9 28.3	27.2 26.1	22 59 23 0I	
36	50.3	51.1	32		36	42.9	45.0	21		36	34.2	32.8	52		34 36 38	27.0	25.0	03 06	
38 40	50.6 50.2	51.4 51.0	32 32		38 40	43.2	45.2 45.1	2I 22		30 40	37.0 32.3	31.1	47 54		38 40	25.0 22.0	23.I 20.9	11	
40 42	49.9	51.0	31		42	44.0	45.2	22	127	42	32.9	31.9 31.6	53 54 55 55	م مد	42	20.9 21.1	19.2	13 12	+2.0
44 46 48		50.8	31 31	+3.3	44 46	45.1	46.0 47.3	24 25	+2.7	44 46	32.I	30.9	54 55	+2.0	44 46	22.0	20.4	11	
48	49.I	51.1	31		48	46.2	47.7	20		48	32.3 32.8	31.0	55		48	23.9	23.0 25.1	07 03	
50 52	49·3 50.0	51.2 51.0	31 31		50 52	45.0	46.1 45.5	24 23		52	34.3	33.8	53 51		50 52	27.7	26.I	02	
50 52 54 56 58	50.0	51.1	31		34 36 38 40 42 44 46 48 50 2 52 46 55 55 58	45.8 45.5	46.1 48.0	24		34 36 38 40 42 44 46 48 50 52 54 56 58	35.I 33.R	34·3 33·I	50 52		54 56 58	28.0 23.8	26.4 21.8	08	
50 58	49.8 49.6	50.9 50.7	31 31		58	44.9	49.4	25 26		58	33.9	33.2	52 52		58	20.0	18.2	14	
					24 00	45.9	49.2	27	+2.8										

Correction to local mean time is — 57s.

Torsion head at 19h 39m read 59° and at 24h 31m read the same.

Observer-J. V.

Observer-J. V.

	e-	ale	TA					1		-					_		1	
br'r ime		lings	East decli- nation	Temp. C.	Chr'r time	Scale readings	nation		Chr'r time	Sca readi Left I	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Tem <sub>1</sub> C.
m	d	d	0 ,	•	h m				h m	d	d	0 ,	•	h m	d	d	0 ,	•
00 02	18.1	16.9 19.3	23 I7 I2	+2.0	6 00	46.8 45 44.8 43			8 00	50.9	48.7	23 07	+4.8	10 00	64.1	62.8 62.3	22 46 46	+6.7
04	23. I	22.9	08		04	41.3 40			02 04	50.9 51.0	49.2 48.9	07 07		02 04	63.9	62.0	47	
06 08	23.I 22.9	22.9 22.0	08		o6 o8	44.9 43			06	51.4	49.3	<b>o</b> 6		06	64.9	63.8	44	
10	21.8	21.0	09 II		10	43.5 42 43.0 41		1	08		49.2 49.2	06		08	65.1	63.9	44 45	
12	20.8	20.I	12		12	45.5 44	0 1	3	12	48.3	46.8	10		12	65.9	64.4	43	
14 16	23.0	22.3 23.0	09 07	+1.8	14 16	42.9 40 44.1 43	-		14 16		44.9 45.1	I4 I4	+5.0	14 16	64.3	62.8 62.5	45 46	+6.1
18	23.0	22.8	08		18	51.0 49	9 04		18	45·9 50.8	49.8	<b>o</b> 6		18	66.0	65.1	42	
20 22	23.0	22.9 22.8	80 80		20 22	48.3 47			20	53.9	52.1	23 02		20	66.3	65.2	42	
	20.9	20.7	11		24	43.5 43 40.8 38	3 I		22 24		58.6 58.2	22 52 53		22 24	65.9		42 43	
24 26 28	20.0	19.9	13	İ	26 28	42.8 41			24 26	61.3	бо.з	50		24 26	65.5	65.0	43	
30	19.1 20.6	19.0 20.0	I4 I2	+1.8	30	50.3 49 43.9b	.2 0, I.		28 30	55.I	54.8 50.9	22 59 23 04	+5.8	28 30	66.0	65.7 66.1	42 41	+6.1
32	21.0	20.9	11		32	43.9 42	.3 I		32		59.1	22 52	13.0	32	66.9	66.2	41	'
34 36	22.0	21.2	IO		34 36 38	42.5 40 45.3 44	- 1		34 36 38	54·9 57·1	54.2 56.8	56 56		34 36 38	66.0		4I 42	
38	20.2	19.1	13		38	47·I 45	8. 10		38		56.9	55		38	66.1	65.1	42	
40	20.8	19.9 20.0	I2 I2		40	47.I 45	.8 10	1	40	55.5 59.8	oa	59		40	66.5	65.0	42	
42 44	20.6	19.7	12	+1.7	42 44	45.9 44			42 44		59.2 57.9	52 54	+6.1	42 44	65.9 66.1	64.I 64.3	43 43	1-6.
46	19.9	17.1	15		44 46	47.6 45	.5 10	)	44 46 48	58.1	57.1	55		44 46 48	66.0	64.0	43	
48 50	19.0	16.3 16.8	17		48 50	48.6 46 48.9 46		3	48 50		61.1 61.1	49 49		48 50	65.2	63.2	44	
52	16.3	14.9	20		52	51.9 50	.o o	3	50 52	59.9	59.2	52		50 52 54 56 58	64.2	62.5	44 46 46 48	
54 56	15.0	I2.5 I2.2	23 23		54 56	44.9 43 46.1 45			54 56 58	58.0 64.2	57.2 62.7	55 45		54	63.1		48 47	
58	15.0		23 2I		58	50.9 49			58		60.5	45		58	63.4	61.9	47	
00	14.9	11.9	23	+1.6	7 00	46.0 43			9 00	59.6	58.9	52	+6.7	11 00	63.2	61.5	47	+5.7
02 04	13.3	9.9	25 28		02 04	48.0 46			02	59·5 61·1	58.3 60.7	53 50		02 04	63.9	62.0 62.7	46 45	
<b>о</b> б	11.2	10.0	28		06	48.2 47	0 0	3	06	61.2	60.2	50		06	64.9	63.0	45	
08 10	13.1	12.I 12.7	24 24		08	46.0 44		1	08	60.2	59.1 60.1	52 50		08	65.2	63.2 63.1	44	
12	9.1	8.9	30		12	46.1 45	.O I	3	12		60.9	49		12	65.8	63.9	43	
14*5	32.9	28.0	35 38 38	+1.7	14 16	49.0 48 45.1 44	_	1 '	14		62.0	47 48	十7.0	14 16	65.9	64.0 63.8	43	+5.5
16 18	30.3 29.9	27.2 27.2	38		18	48.94	0		16		61.3	47		18	67.0	64.9	43 42	
20	32.6	30.2	34		20	51.3 51	.2 0		20	65.0	64.0	44		20	68.0	65.8	40	
22	34.0		32 34		22	45.9 45 40.1 40			22 24	64.2	62.7	45 46		22 24	68.9 60.0	66.8	39 39	
24 26	33.0 31.9	30.2 29.0	35		24 26	50.1 48	.1 0		26	62.6	62.1	47		26 28	69.0	67.1	38	
28	33.2	31.0	33	1.7.77	28.4 30	47.06	.5 1		28	63.8 65.2	63.0 64.7	46	+7.0	28 30	70.2	68.6 68.4	36 36	+5.
30 32	34.8	32.I 38.2	31 21	十1.7	32 .	44.9 44 Overl'k	i		30 32	64.9	64.6	43 44	₩7.0	32	69.7	68.2	37	T3.
34 36 38	41.0	39.0	20		34 36 38	50.3 48 55.6 54 53.1 52	I 23 0		34.6 36 38	64.9	63.9	45		34 36 38	68.7	67.2	37 38 38	
36	37.2 33.5	36.1 32.1	26 32		38	55.0 54 53.1 52	1 22 5		30	64.0 62.8	62.1	45 47		38	60.2	67.8 68.0	30	
40		31.9	32		40	48.0 40	.0 0	)	40	62.0	62.0	47 48		40	60.5	68.2	37 37 38	
42	39.3	37.1	23	LT /7	42	40.9 40 52.9 51	.6 19		42	62.3 62.0	61.9	48	+7.0	42	08.7 68. T	67.9 67.6	38	+5.
44 46 48	39.I 4I.9	38.1 39.1	23 20	十1.7	44 46	48.9 48	0 23 0	7	44 46	62.7	61.7	49 48	17.0	44 46	68.0	66.6	39	13.
48	40.0	38. I	22		48	55.0 53	6 22 5	3	48	63.1	62.1	47		48	67.6	66.2	40	
50	39. I	38.3	22		50 52	48.0 46 52.2 51			50 52	62.1 64.9		48 44		50 52	67.0		4I 4I	
52 54	44.I 42.I	42.9 40.8	15		54	53.3 51	9 0		54 56	63.4	62.2	47		54	67.0	66.2	40	
50 52 54 56 58	43.1	41.9	16		54 56	52.9 51	.1 0:	1	56 58	63.4	62.I	47		54 56 58	67.9	66.3 66.2	40	
58	45.0	43.9	14		58 8 oo	53.2 52 52.0 51	I 0:		50	03.2	02.1	47		12 00	66.9	66.0	40 41	

Correction to local mean time is — Im 22s. 90° torsion = 19.'03. Torsion head at oh oom read 59° and at 8h 17m read 53°. Observer—J. V.

Correction to local mean time is — Im 44s. 90° torsion = 18.'06. Torsion head at 7h 50m read 53° and at 12h 20m read 49°. Observer—J. V.

A UCS	day, Ju		1904	1	Ш	1	ıvıagı	et scale	erect	Wed	nesday	, June	15, 190	1		M	agnet :	scale inv	rerted
Chr'r time	read	ale lings Right	East decli- nation	Гетр. С.	Chr'r time	reac	ale lings Right	East decli- nation	Temp C.	Chr'r time	read	ale lings Right	East decli- nation	Femp. C.	Chr'r time	read	ale lings Right	East decli- nation	rem C.
h m	d	d	0 ,	v	h m	d	d	• ,	•	h m	d	d	- ,	•	h m	đ	ď	• ,	·
2 00	52.6 52.2	54.2 54.6	22 35 35	+10	14 00 02	46.1 46.7	47.2 47.4	22 24 25	+0.7	0 00*	54.0	53.7	22 41	+1.3	2 00	46.0	45.8	22 54	+1.0
04 06	52.3	54.5 54.8	35 36		04	46.3	47.4	24		02 04	51.0 49.8	50.9 49.4	46 48		02 04	46.3 45.1	46.0 45.0	53 55	
80	52.9 52.1	54.4	35		06 08	46.9 47.0	47.8 47.8	25 25		06 08	47.0 45.3	46.5 45.2	52 55		об <b>08</b>	42.I 4I.0	42.0 40.9	22 60 23 01	
10 12	51.1	52.0 52.9	32		I0 I2	46.9	47.6 47.9	25 25		10	44.0	43.8	57 58		10	37.1	36.9	08	
14 16	50.8	53.1	32	+0.9	14	46.9	48.0	25	+0.8	12 14	42.9 43.6	42.9 43.4	22 57	+1.2	I2 I4	35.I 34.9	35.0 34.I	II	+1.0
18	50.3	53·3 52·6	33 32		18	46.1	47·7 47·4	25 24		16	42.I 4I.9	4I.9 4I.I	23 00 23 00		16 18	34.2 34.9	33.0 34.0	13 12	-
20 22	49.9	52.I 52.I	31 31		20	42.9	44.I 44.7	19 20		20	42.9	41.8	22 59		20	31.1	30.8	17	
24 26	51.1	52.9	33		24	44.0	44.9	21		22 24 26	46.0 45.1	45·4 44·4	54 55		22 24	31.I 34.I	30.9 33.8	17 12	ł
28	51.7 51.2	53·4 53·1	33 33		26 28	44.7	45.6 45.3	22 22		26 28	45.I 44.2	44·5 43·9	55 56		26 28	35.I 35.0	34.0 34.I	11	
30 32	50.9 50.1	52.6 52.1	32 31	8.0+	30 32	45.2 45.7	46.1 46.8	23 24	+0.9	30	43.0	42.2	59 58	+1.2	30	39.0	38.8	04	+1.0
34	49.2	51.7	30		34 36	46.2	47.I	24 26		32 34 36	42.8 46.0	42.7 45.8	54		32 34 36	37.0 38.9	36.3 38.1	08 05	
36 38	49.1 50.0	51.8 52.9	30 32		38	47.I 46.I	48.0 47.1	24		36 38	47.1 47.6	46.8 47.1	52 51		36 38	40.2 39.2	39.6 38.1	03 05	
40 42	50.2	53.0 52.7	32 32		40 42	46.9	47.8 49.2	25 28		40	48.1	47.1	51		40	37.0	36.0	08	
44	50.1	52.0	31	10.7	44	48.7	49.2	28	+0.9	42 44 46	45.9 46.0	45.0 45.9	54 53	+1.1	42 44 46	35.8 36.9	35.0 36.2	10 08	+1.0
44 46 48	50.1 48.8	53.0 51.3	32 30		44 46 48	49.1 49.9	49.8 50.6	28 30		46 48	42.6	41.I 42.2	58		46 48	39.6 39.8	38.8 39.1	04 04	
50 52	48.1 48.7	50.3 50.8	28 29		50 52	50.1 49.9	50.9 50.3	30 30		50	44.0	43.I	57		50	36.3	36.1	09	
54 56	49.5	51.2	30		54 56	49.8	50.5	30		52 54	45.0 45.8	44.7 45.0	55 54		52 54	33·9 33·4	33.I 33.0	13 14	
58	50.3 50.6	52.I 52.I	31 32		58	50.I 49.8	50.8 50.2	30 30		56 58	45·3 44.1	44.5 43.9	55 56		56 58	34.0 35.8	33.8 35.3	13 10	
00 02	50.2 49.2	51.9 50.1	31 29	10.7	15 00 02	49.1 50.0	49.9 50.7	29 30	+0.9	I 00	45.3	44.I	55	+1.1	3 00	37.4	37.1 48.8	23 07	+1.0
04	48.9	49.6	28		04	48.4	49.I	27 26		02 04	46.0 45.9	45.8 45.1	54 54		02 04	40.0	30.0	22 49 23 03	
o6 o8	49.2 50.0	50.2 51.1	29 30		06 08	47·4 47·I	47·9 47·7	20 25		o6 o8	43.9 41.8	43.I 4I.O	22 57 23 OI		06 08	41.2	40.8 42.9	23 0I 22 58	
10 12	50.2 49.8	51.3 50.8	31 30		10 12	47.0 47.7	47·4 48.0	25 26		I0 I2	41.1	40.1	02		10	47.0	46.I	53 48	
14 16	49.2	50.0	29	十0.7	14 16	47.2	47.9	26 26	+0.8	14	39.8	39.1 39.6	04 03	+1.1	12 14	49.9 51.1	49.2 50.9	46	+1.0
18	48.0 47.5	49.0 48.5	27 26		18	47.7 48.2	48.1 49.0	27		18 18	42.I 40.I	41.6 39.3	00		16 18	50.9 46.8	50.7 46.5	46 22 52	
20 22	48.7 47.9	49.7 48.9	28 27		20 22	47·3 47·9	48.0 48.8	26 27		20 22	40.0	39.7	03		20 22	41.9	40.9	23 OI I4	
24 26	49.1	50.1	29		24	47.5	48.2	26		24	39.8	39.2 39.0	03		24	32. 20.	.ob	34	
20 28	49.5	50.0	29 29		20 28	40.2 47.2 47.8	47.1 48.2	24 26		26 28	38.2 36.9	36.8 36.8	07 08		26 28	10.8 18.5	10.5 17.1	49 38	
30 32	50.3 49.6	50.9 49.9	30 29	+07	30 32	47.8 47.9	48.8 48.8	27 27	+0.7	30 32	40.7 43.8	39.9	23 03	+1.1	30	26. I 31.0	24.3 28.8	26	+1.0
34	49.8	49.8	29 28		34 36	47.9	48.9 48.8	27		34	42.5	43·3 41·9	22 57 59	İ	32 34	32.9	30.2	16 16	
34 36 38	49.1 49.0	49·4 49·0	28		38	47.9 47.1	47.9	27 26		36 38	44.0 44.2	43.9 44.1	57 56		34 36 38	33.I 34.8	32.2	15 13	
40 42	48.3 48.2	48.8 48.6	27 27		40 42	46.9 47.1	47.7 48.0	25 26		40 42	44.2 43.8	44.I 43.6	56	İ	40 42	35.7 36.2	33.8 34.2	11	
44	48.2 48.2	48.9	27 27	+0.7	44 46	49. I 50. 4	49.9 51.4	29 31	+0.4	44 46	44.I	43.9	57 56	+1.5		36.3	34.8	10	+1.1
44 46 48	48.1	49.2 49.1	27		48	51.9	53.0	33		46 48	45·7 47·0	45.2 46.9	54 52		40 48	37.9 39.0	36.0 37.1	08 06	
50 52	47.9 47.2	48.9 48.2	27 26		50 52	52.6 51.1	53.9 52.1	34 32		50 52	47.0 47.8	47.2 48.1	51 50		50	38.8 34.8	37.0 32.8	06 . 12	
50 52 54 56 58	46.4 46.6	47.4	25 25		54 56 58	49.2 46.3	50.I 47.I	29 24		54 56	48.2 48.8	48.4	49		44 46 48 50 52 54 56 58	30.4	29.0	19	
58		47.7 47.2	25 24		58	43.7	44.0	20		56 58	47.9 46.9	47.9 46.8	50 52		50 58	27.0 26.1	25.5 24.7	24 26	
58					58 16 00			20	+0.2	58	46.9	46.8			58	26.1		<b>2</b> 6	

Correction to local mean time is + 19.5s.

Torsion head at 12h oom read 51° and at 16h 15m read the same.

Observer—J. V.

Observer-J. V.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

hr'r ime	Scale reading Left Ri	gs	East decli- nation.	Temp. C.	Chr'r time	Sca read	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.	Chr'r time	Scaread	ings	East decli- nation	Temp C.
m	d	d ·	0 ,	•	h m	d	d	0 ,	•	h m	ď	d	0 /	•	h m	d	d	. ,	•
02 00		0.0 3.0	33 23 28	+1.1	6 00	22.I 29.9	20.2 26.7	32 23 21	+1.7	8 00	32.3	31.1	23 16	+1.9	10 00 02	52.8 52.0	52.5 51.3	22 43 45	+2.5
04	20.0 1	8.8	35	41.1	04	17.3	16.2	39	T1.7	02	32.9 32.1	32.2 30.9	15 16		04	47.6	46.9	51	
<b>o</b> 6		7.9	37		06	18.9	18.7	36		06	38.0	36.6	07		06	53	.6a	41	
08 10		0.9 5.8	33 25		08	22.0	21.0 22.8	32 29		08	36.8 36.4	35·9 35·5	08		08	57.0	56.7 56.0	36 38	
12	31.1 3	0.0	25 18		12	21.3	19.6	34		12	39.2	38.0	05	١.	12	57.0	56.5	37	1 - 4
14 16		9.2 5.9	18 25	+1.2	14 16	10.2	9.8	50 46	+1.7	14 16	39.0	38.6 36.9	04 06	+2.0	14 16	58.3	58.0 56.0	34 <b>37</b>	+2.6
18	20.8 2	0.2	33	'	18	15.9	14.8	42		18	36.1	35.0	10		18	54.3	53.3	41	
20 22		6.3 4.2	39 43		20 22	16.8	15.0 19.0	41 35		20 22	43.0 31.2	40.6 30.2	00 17		20 22	53·3 50·7	52.3 50.2	43 46	
24 26	-	4.2	43		24	20.0	19.8	34		24	39.0	38.5	05		24 26	51.8	50.3	46	
26 28		5.2	41		26 28	17.8	17.3 17.1	34 38 38		26 28	34.2	34.0 28.5	12		26 28	51.8	50.6	45	
30		3·7 2.2	44 46	+1.2	30	18.3	17.9	37	+1.6	30	29.9 35.6	34.4	20 II	+2.2	30	53.0 54.3	51.0 51.6	44 42	+2.
32	l .	1.9	47		32	20.0	19.3 18.1	35 36		32	27.5	26.2	23	-	32	54.0	51.3	43	
34 36 38		2.5 3.6	46 44		34 36	20.1	19.8	34		34 36 38	34·3 34·3	33.I 33.0	13		34 36 38	54·3 53·3	50.8 50.2	43 44	
38	16.3 1	5.7	40		38	20.0	18.1	34 36		38	32.4	30.4	16		38	56.1	53.3	40	
40 42		8.0 <i>7.7</i>	37 37		40 42	19.0	17.7 17.9	37 36		40 42	39.0	38.6 36.1	04 07	1	40 42	59.8 57.6	56.2 54.6	34 37	
44		8.0	37	+1.4	44	20.2	19.9	34	+1.6	44	41.3	39.8	23 02	+2.3	44	50.3	47.3	49	+2.
44 46 48		7.1	39		46 48	21.2	20.4	33		44 46 48	45.8	44·3 40·2	22 55 23 OI		44 46 48	55.I 51.6	50.6 48.3	43 47	
50		4.1 5.2	43 42	1	50	26.0	25.I	29 26		50	44.5	42.7	22 57		50 52	54.1	49.6	44	1
52		6.7	39		52	26.9 32.8	26.0 31.0	24 16		52	47.2 47.8		53	1	52	53.6 50.8	52.8	42 46	
54 56		5.0 2.2	42 46		54 56	33.0	31.8	15		54 56	46.7	46.0 45.2	52 54		54 56	50.6	50.3 50.1	46	1
58	10.5	Ь	49		58	26.8	26.6	24	+1.6	58	53.9	51.5	43		58	52.0	50.9	45 48	
00 02		2.2 8.8	49 46 36	+1.5	7 00 02		25.4 ost	24	71.0	9 00 02	55.I 54.0	53.8 52.9	40 42	+2.5	II 00 02	49·3 50.6	48.9 50.2	46	+2.
04		4.I	43		04		ost			04	54.0	52.6	42		04	48.3	48.1	50	
06 08		4.0 3.1	44 45		06.9	21.3	21.1	32		06 08	57.6 55.6	56.9 54.8	36 39		06 08	48.3	48.0 52.4	50 43	
10		4.8	42		10	23.3	23.I	29		10	54.4	53.I	41		10	55.0	54.3	40	
12		3.9	44 41	+1.8	12 14	18.5	18.1 .5a	37 27	+1.5	I2 I4	54·7 55·2		4I 40	+2.5	12 14	52.0 52.3	52.0 52.3	44 43	+2.
14 16		5.8 6.0	40	71.0	16	27.0	26.3	24		16	54.5		42	12.3	16	51.6	51.3	45	
18	15.2 1	4.3	43		18 20	26.9 24.0	26.0 23.7	24 28		18	55-7	53.2	40		18	52.3 49.6	51.3	44 48	
20 22		4.2 4.1	43 43		20	27.3	26.0	24 36		20 22	57.I 55.3		37 40		22	53.6	49·4 53·0	42	
24 26	18.3 1	8.1	37		24 26	19.9	18.5			24 26	55.2	53.0	41 48		24 26	54.9	53.I	41	
26 28	13.9 I 15.2 I	3·3 4.8	44 42		20 28	2I.2 22.0	20.9 21.4	33 32		20 28	50.3	48.7 47.4	50		28	57·7 60·3	57.0 59.3	36 32	
30	13.2 I	2.9	45	+1.8	30	25.8	24.0	27	+1.7	30	51.1	50.3	46	+2.5	30	01.0	59.0	31	+2.
30 32	14.0 I	2.7	45		32 34	23.0 19.3	22.9 18.9	30 36		32	56.0 56.9	54·3 55·3	39 37		32 34 36 38	59.8	57.1 55.3	34 37	
34 36 38	14.2 I 14.7 I	3.I 4.I	44 43		36	20.0	19.9	34		34 36	51.3	49.3	47 48		36	57·5 57·0	55.5	37	
38	16.9 I	6 <b>.o</b>	40		38	19.8	18.9 23.7	35 28		38 40	50.1 51.6	48.5	48		38	57.3	55.6	37	
40 42		8.2 2.0	37 31		40 42	20.2	17.9	36		42	54.1	52.9	45 42		40 42 44	58.3	55.2 55.3	36	
44	24.I 2	2.9	29		44 46	22.0	21.9	31 28	+1.8	44	52.3	51.8	44	+2.5	44	57.3 56.6 58.3 57.3 58.5	52.8	37 37 38 36 39 37 38	+2
44 46 48		0.3	32 37		46 48	24.7	23.6 26.1			40	55.0 56.5 53.5 54.6	53.8 55.0	40 38		47 48	58.1	54·3 53.8	37	
40 50	16.9 1	7.0 4.9	3/ 4I		50	30.9	30.0	23 18		50	53.5	53.0	42		50	58.3	54 • 5	37	'
52	17.8 1	4.8	40		52	27.2 28.9	27.0 28.0	23 2I		52	54.6	52.8	41		52	54.I 53.I	51.2	43	:
50 52 54 56 58	22.9 I	9.2 6.0	33 23		52 54 56	30.1	29.5	19		44 46 48 50 52 54 56 58	53.7 56.5 47.5	53.1 55.3	38		50 52 54 56	54.0	50.0	44	
58		9.7	17		58	29.0	28.6	20		58	47.5	47.3			58	54.0	50.8		3

Observer-J. V.

Observers—J. V. and W. J. P., who alternated from 8h o6m to 8h 16m.

#### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

wed	nesday, June	15, 1904	<del> </del>		Ma	gnet s	scale inve	erted	Wed	nesday	June	15, 1904	•		M	agnet s	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	Sca readi	ngs	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation	remp.	Chr'r time	read	ale lings Right	East decli- nation	Tem C.
h m	d d	0 ,	0	h m	d	<del>`</del> _	0 ,	•	h m	d		• ,		h m	d	d	• ,	-
00	54.0 50.3 54.2 49.9	22 44 44	+2.7	I4 00 02		62.4	22 27	+3.8	16 00 02	58.6 58.8	56.2 56.3	22 35 35	+4.2	18 00	77·5 75·4	76.3 73.1	21 25	
04	57.3 53.0	39		04	58.3	57.3	29 35		04	57.8	55.I	37		04	55.0	52.2	2I 29 22 0I	
об 08	58.2 54.1 57.5 54.0	37 38		06 08	48.4 46.3	48.0 45.3	50 54		06 08	52.2 51.9	49.9 49.8	46 46		06* 08	52.7 54.9	50.I 52.I	21 24 21	
10	58.0 55.2	37		10	45.6	45.3	54		10	55.0	52.8	41		10	58.0	55.3	16	
I2 I4	61.2 59.2 63.1 62.0	31 27 28	+2.9	12 14	47·3 64.0	46.1 62.6	52 26	+3.8	I2 I4	55.1 58.1	53.I 56.6	40 36	+4.3	12 14	64.1	61.7 68.2	21 06 20 57	+4.:
ıĠ	63.3 60.6	28	12.9	16	57.0	56.0	37	T3.0	16	56.5	55.0	38	14.3	16	12.3	70.4	53	T4.
18 20	65.8 60.8 66.7 62.3	26 24		18 20	60.6	59.2 60.4	32 30		18 20	55.7 56.7	53.6 54.3	40 38		. 18 20	74.0	72.5 75.2	50 46	
22	67.9 64.6	22		22	60.5	59.9	31		22	51.9	50.3	45		22	76.3	75.I	46	
24 26	66.7 65.3			24 26	59.8	59.0 57.9	32		24 26	51.1 51.9	49.2 49.7	47 46		24 26	75.0 76.9	73.9 74.8	46 48 46	
28	72.0 69.0	15		28	59.9	48.8	33 48		28	55-3	53.I	40		28	74.1	72.3	50	
30 32	71.0 68.7 68.8 67.2		+3.0	30 32	48.0 48.3	46.6 47.1	51 51	+3.9	30 32	55.8 54.0	53.6 52.8	40 42	+4.6	30 32	75.I 73.8	73·3 71·5	49 51	+4.0
34	69.3 64.3	21		34	50.4	49.3	47		34	53.2	51.0	44		34	72.0	70.3	53 60	
36 38	71.0 67.2 70.1 65.9			36 38	47·5 48.6	47.0 47.5	51 50		34 36 38	55.9 58.7	53.1 56.2	40		34 36 38	68.8	66.5 66.9	60 50	
40	69.6 65.7		ļ	40	50.3	49.7	47		40	57.1	54.6	35 38		40	70.9	68.8	59 56	
42 44	61.7 59.3	30 24	+3.1	42	51.8	50.4 49.5	45 47	+3.9	42	49.7 56.1	46.8 55.0	50 38	+4.7	42	72.9	70.8 69.5	52 54	+3.9
46 48	66.9 64.6	22	13.1	44 46	51.4	50.3	46	T3.9	44 46 48	65.1	64.7	24	14.7	44 46	72.2	70.2	53	13.9
48 50	65.8 63.4 66.6 64.1			48 50	54.1	53.6 54.3	4I 39		48 50	68.1	66.9 62.1	20 28		48 50	71.2	69.1 71.1	55 52	
52	65.0 61.5	26		52	57.9	57.3	35 38		52	59.1	55.9	35		52*	52.7	47.6	45	1
54 56	63.8 59.0			54 56	56.0 53.3	55·3 53·2	38		54 56 58	57·9 60.7	55.I 57.9	37		54 56	54·3 53.6	49.7 49.2	42 43	
58	65.5 60.0	27		58	56.3	55.3	42 38			63.9	61.1	27		58	53.1	49.1	43	
3 00	64.6 59.8 53.5 48.0		+3.3	15 00 02	52.2 54.3	51.5 54.0	44 40	+4.0	17 00	74.8	71.1 73.7	11	+4.7	19 00 02	52.2 49.7	42.1 45.6	50 49	+3.8
04	44.3 38.5	23 01		04	56.0	55.I	38		04	74.0	72.I	11		04	49.1	45.5	49	
o6 o8	47.3 44.9 44.9 42.6	22 53 57		06 08	58.6	57.1 57.0	35		06 08	74.6	73.I 76.0	05		o6 o8	48.2 49.4	45.0 46.6	50 48	
10	46.8 44.6	54		10	57-3	56.5	35 36		10*	53.0	51.5	03		10	45.7	41.3	55	
12 14	48.2 47.8 50.2 49.5		+3.5	12 14	58.3 57.6	57·3 57·3	35 35	+4.1	I2 I4	55.8 56.3	53·3 54·0	22 00 2I 59	+4.7	I2 I4	46.9	42.8 40.5	20 56	+3.8
16	51.8 51.2	45	10.5	16	55.0	54.8	39	1 4	16	53-5	51.2	22 03	14.7	16	40.9	37.9	21 02	
18 20	55.9 55.0 60.0a	39		18	51.5	51.5 49.3	45 48		18 20	53.6 56.9	50.2 53.9	22 04 21 59		18	39·5 39·7	36.3 36.9	04 2I 03	
22	65.3 64.0	24		22	47.0	45.6	53		22	56.1	53 · 7	21 59		22	53.I	49.3	20 43	1
24 26	65.9 65.3 66.2 64.3 58.3 57.6 50.8 48.5 46.6 46.2			24 26	46.0	45.5	54 57		24 26	44·5 31·3	39.1 26.8	22 20 40		24 26	53.8 52.8	49.8 49.0	42 43	
28	66.2 64.3 58.3 57.6 50.8 48.5	23 35 48 53 50	1 - 0	28	44·3 45.8	43·3 44.6	55		28	32.9 41.1	29.4 36.9	37	1.0	26 28	52.8 54.2 61.1 54.8	50.7	41	İ
30 32	50.8 48.5 46.6 46.2	48 53	+3.8	30 32	48.0 52.0	47.0 50.6	55 51 45 38	+4.0	30 32	37.4	30.9	24 30	+4.8	30 32	54.8	57.9 51.0	30 41	
34	49.0 47.5	50		34 36	56.6	55.0	38		34	40.9	33·7 36.2	25		34	49.9	47.I	47	
34 36 38	54.1 53.1 62.3 60.7	4I 20		38	54.0 56.8 56.8	52.5 54.7	42 38 38		34 36 38	36.0 32.2	32.I 28.9	32 38		34 36 38	51.3 49.9	48.7 46.1	45 48	
40	61.3 59.2 56.8 54.8	31		40	56.8	54.5	38		40	32.2 29.8	27.0	41		40	47.0	44.0	52	
42 44	56.8 54.8	29 31 38 39	+3.8	42 44 46 48	56.1 52.8	52.2 51.4	40 44	+4.0	42 44	34·4 36.0	34.0 35.3	32 30	+4.9	42 44	47.0 45.9	43.I 42.3	53 54	13.
46	64.3 61.5	27		46	53·3 52.6	51.0	44		46	36.0 35.8 36.8	35.0	30		44 46 48	46.2	44.0	53	
48 50	70.8 69.4	15		48 50	52.6 52.6	50.3 50.1	45 45		48 50	50.0	35.0 54.1	22 29 21 59		50	43·7 39.8	41.1 37.8	20 57 21 03	
52	74.8 73.3	. 09		50 52	53.1	50.6	44		52	61.2	54.1 58.7	52		52	37.9	36.2	06	
44 46 48 50 52 54 56 58	71.0 70.6 71.0 70.3	15		54 56 58	54.1 54.7	51.5 52.1	43 42	1	44 46 48 50 52 54 56 58	68.3 68.9	66.9 68.1 73.8	39 38		54 56 58	40.0 42.3	40.9	21 02 20 58	5
58	65.3 64.0	24		58	56.3	53.5	39		58	74.1	73.8	30		58	43.2	41.9	57	'   '

Observers—W. J. P. and R. R. T., who alternated from 15h 38m to Observer—R. R. T. 15h 52m.

#### MAGNETIC OBSERVATIONS

#### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wedı	nesday, Ju	ne :	15, 1904			Ma	gnet s	cale inve	rted	Thur	sday, J	Tune 16	, 1904				Magne	et scale	erect
Chr'r time	Scale reading Left Rig	s	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp C.
h m		d	0 /	u	h m	d	d	0 /	•	h m	d	d	• ;		h m	d	d	0 ,	
02 02	43.3 42	2.9 2.4	20 55 56	+3.7	22 00 02	44.9 48.1	32.7 36.6	21 19 13	+4.2	16 00* 02	32.1 32.8	32.8 34.2	2I 25 27	+1.0	18 00 02	18.9	21.1 18.2	2I 06 2I 02	0.0
04 06	45.1 44	.1 .7	55 53		04 06	42.9 4I.9	30.I 30.9	22 22		04 06	29.1 29.2	31.I 31.7	22 22		04 06*	14.6 29.1	17.4 30.4	20 60 42	ŀ
08 10		3.3 2.9	51 56		08	44.2	33.6 31.9	18		08 10	31.8	33.2 30.1	26 20		08 10	28.2	34.I 35.9	44 48	
12	45.0 44	1.1	54		12	39.9	30.8	24	,	12	26.3	29.6	18	1.56	12	32.8	38.1	51	lo r
14 16	42.2 41 43.1 42	1.9 2.6	54 58 56	+3.8	14 16	35·9 35·7	27.3 27.8	30	+4.1	14 16	27.4	30.8 28.1	20 15	<b>+0.</b> 6	14 16	32.9	38.2 35.0	51 50	+0.1
18	44.0 43	3.2	55		18	33.8	27.3 21.9	32		18	19.0	23.I	07 19		18 20	28.9 28.9	35.I 34.0	46 45	
20 22		1.I 1.0	54 54		20 22	30. I	24.9	40 36		20 22.6	25.2 30.0	32.0 32.1	23		22	25.7	31.0	40	
24 26		5. I 7.9	50 47		24 26	27.9 31.8	22.5 26.0	40 34		24 26	24.8 17.8	29.0 20.0	17 21 04		24 26	25.I 25.0	30.2 30.3	39 30	
28	50.4 49	9.9	45		28	24.0	18.0	47		28	13.0	16.7	20 57		28	25.0	29.3	39 38	100
30 32		7.0	45 46 48 38	+3.9	30 32	18.1	13.2 13.1	55 55	+4.0	30 32	9.8 12.3	13.0	20 55	+0.4	30 32	25.2 27.3	30.7 32.0	40 42	+0.2
34 36	55-3 53	3·5 8·4	3S 31		34 36 38	18.3	14.3 16.2	54		34 36	16.3		2I 03 IO		34 36 38	30.2	34·3 37·0	46 51	
38 38	55.6 54	4.9	37	1	38	17.2	12.9	51 56		38	25	.2a	14		38	36.8	39.3	55 56	
40 42	53.8 53 63.3 61	3.0 1.4	40 26		40 42	14.9	11.0	59 56		40 42	28.0	28.7 28.1	19		40 42	37.1 36.5	40.I 39.2	55	
44	66.8 6	3.2	22	+4.1	44	16.9	13.8	56	+4.0	44	41.0	41.0	39	+0.3	42 44 46 48 50	35.2	38.2	53	+0.2
44 46 48*		9. <i>2</i> 3.0	20 13		44 46 48	17.2	14.I 11.3	55 60		44 46 48	45.7	46.3 45.8	47 44		46 48	34.8 33.9	38.3	53 51	
50	49.3 4	1.1	20 13		50 52	14.4	12.0	59		50 52	40.0	44.0	40 46		50 52	37.0 40.0	40.2	20 56 21 01	
52 54		2.0 8.0	01 05		52 54	14.7	12.5 12.2	59 58 58 56		54	43·3 43·3		46		54 56	46.0	48.9	10	
54 56 58	49.2 43	3.9	11		54 56 58	16.0	13.9 15.1	56 54		54 56 58	43.2 43.1		45		56 58	46.8 49.8	49.2 52.5	11	
2I 00	52.2 4	3.2 3.4	09	+4.0	23 00	15.9	14.1	56	+3.8	17 00	46.2	47.0	44 48	- <del> -</del> 0.1	19 00	51.6	54.0	19	+0.2
02 04		б.і 4.і	21		02 04	13.9	12.0 12.4	59 58		02 04	48.1 48.1		51 53		02 04	53.7 55.0	56.0 57.8	22 24 18	
<b>o</b> 6	34.0 30	8.0	33 18		o6 o8	16.7 18.9	14.5	55 52		o6 o8	50.8	51.9	55		06 08	51.3 51.8	54.I 54.0	18	
08 10		0.0 4.6	27		10	17.9	15.8	53		10	43.9	45.0	51 44		10	52.7	55.3	20	
12	38.9 32	2.9	27 31	+3.9	I2 I4	15.9	13.3 14.8	57 55	+3.7	I2 I4	46.5		49 50		12 14	51.9 48.7	55·5 52.0	20 15	
14 16	34.7 3	1.1 1.8	32	13.9	16	20.1	18.8	49	10-7	16	49.3	52.3	54		16	47.4	50.9	13	
18 20		7.9 8.9	37 36		18	18.0	19.0 16.9	49 52		18 20	46.2		51 48		18	56.2	57.2 68.1	25 39	
22	37.8 30	0.2	30		22	ıб.2		55		22	49.0	54.1	55		22	58.9	62.8 66.0	31	
24 26	22.4 IS 26.1 2	5.2 1.2	54 47		24 26	18.1	17.7 21.8	52 45		24 26	49.0 51.8	56. I	21 59		24 26 28	63.0	63.2	38	;
28	25.4 19	9.5	49 58	Lat	28 30	20.8 15.8 15.8	19.3 15.1	45 48 55 56	+3.4	28 30	52.0	57.8	22 OI 21 56		28 30	49.0 46.3	50.7 47.8	14	
30 32	20. I I	3.9 4.2	20 57	+4.1	32	15.8	14.1	56	10.4	32	55.9	59.8	22 05		32	45.9	48.0	09	
34 36 38*	16.7 10	0.3	2I 02 04		34 36	17.3 20.8	16.0 18.7			34 36 38	53.I 50.I	56.8 54.1	22 OI 21 56		34 36	45.2 40.2	47.8 42.2	00	
38*	66.4 51	1.6	30		38	23.0	2I.I	45		38	52.0	56.5	60		38	45.0	46.1	07	
40 42	72.1 55 71.5 5	5.9 8.0	22 20		40 42	25.4 29.2	23.8 28.1	4I 35		40 42	52.5 46.9	50.8	5 <u>1</u>		40 42	40.9	41.9 44.6	03	3
44_	74.0 58	8.2	21 18	+4.1	42 44 46	30.I	29.0	33 36	+3.1	44	51.7 42.6	54.8 45.1	58		44 46	39.9	42.9	21 01	0.0
46 <b>*</b> ⊿8		2.0 1.9	20 57 59		48	27.9 24.8	24.I	41		44 46 48	29.9	33.9	24		48	22.0	27.9	35	5
50	63.9 43	3. I	59 56		50 52	25.5 25.0	24.8 24.1	40		50	26.8	29.8 31.2			50 52	26.0 43.8	32.3 49.8	20 41	
52 54	63.7 47	7.3 7.6	52 20 52		52 54 56	22.4	22.0	45		54	29.9 31.7	34.7	27	·	54	43.2	50.1	09	9
44 46* 48 50 52 54 56 58	53.8 42	2.3	21 04 12		56 58	19.9	19.1 18.9	49 50		50 52 54 56 58	29.9	33.0			54 56 58	51.2 49.1	53.8	10	
58	49.3 3	J. /	12		24 00	16.9	15.3	54	+3.0						20 00	55.0	58.0	2	

Correction to local mean time is — 35s. 90° torsion = 15.'36. Torsion head at oh oom read 51° and at 24h 20m read 50°. Observer—R. R. T.

Correction to local mean time is — 0.5s. 90° torsion = 17.'14. Torsion head at 15h 44m read 50° and at 20h 16m read 49°. Observer—J. V.

## Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Frida	ay, June 17,	1904			Ma	ignet s	scale inv	erted	Sund	lay, Jur	ne 19,	1904			*	Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	Sc read Left	_	East decli- nation	Temp. C.	Chr'r time	Scaread	lings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Tem C.
h m	d d	0 ,	•	h m	đ	d	0 ,	•	h m	d	d	• ,	•	h m	d	d	• •	
00	46.2 45.8 52.1 51.0		~0.5	22 00 02	52.0 52.1	51.3 51.1	22 II II	-1.0	0 00*	59.0 59.1	59.8 60.8	22 33 34	+0.9	2 00 02	52.7 52.9	53.1 53.7	22 23	
04 06	51.8 51.0 45.5 44.2	II e		04 06	52.0 51.9	51.1 50.1	11		04 06	59.8	61.1	34		04 06	49.9	50.3	23 18	
08	49.0 47.8	16		08	51.8	50.6	12		о8	60.4	61.8	35 36		08	51.3 53.0	52.0 53.2	20 23	
10 12	54.2 53.0 58.3 57.2			10 12	50.8	49.9 49.9	13		I0 I2	59.9 59.8	61.0 60.5	34 34		10 12	53.0 53.9	54.0 55.1	24 25	
14	58.0 57.4	1 22 01	-0.7	14	52.1	51.3	11	-1.0	14	59.2	60.1	33	<del>+</del> 0.6	14	53.1	54.I	24	+2.0
16 18	59.9 58.5 59.9 58.6	21 59		16 18	54.8	53·9 55·5	07 04		16 18	60.6	61.1	35 35		16 18	53.2 56.0	54.2 57.3	24 28	
20 22	55.9 54.6 52.3 51.6			20 22	51.4 55.8	50.8 55.0	12 05		20 22	60.6	61.2 61.3	35 36		20 22	59.2 61.0	60.7	34 36	
24	51.7 50.	12		24 26	52.9	52.8	09		24 26	60.7	61.9	36		24 26	бо.о	60.3	34	
26 28	51.0 49.5 51.5 50.	12		20 28	52.0 52.9	51.3 52.1	II		26 28	61.7	62.1 62.0	37 36		26 28	57.2 58.0	58.0 59.1	30 31	
30	49.9 48.0 48.0 46.0	3 15	-0.8	30	51.0 47.9	50.0 46.8	13	-1.0	30	60.9	61.8	36	+0.8	30	60.0	60.3	34	+2.0
32 34 36	47.9 46.	18		32 34 36	46.2	44.9	21		32 34	60.5 58.9	61.4 59.4	35 32		32 34 36	бо.з бо.з	61.1 60.9	35 35	
36 38	46.9 45.8			36 38	45.0	43.7 42.3	22 24		34 36 38	55·3 58·9	56.1 59.9	27 33		36 38	59.9 60.0	60.2 60.5	34 34	
40	44.9 43.0	) 22		40	45.3	43.6	22		40	55.0	56.1	27		40	61.1	61.9	36	
42 44	45.8 44.0 45.2 44.0		-I.O	42 44	44.1	42.9 42.1	24 24	-1.1	42 44	56.9 58.0	57·7 59.0	30 31	+0.9	42 44	60.9	61.0 61.0	35 36 38 38	+1.9
44 46 48	45.9 45.			44 46 48	45.0 46.2	43·7 45·9	22 20		44 46 48	58.0 57.1	59.1 58.5	31		44 46 48	62.3	63.1 63.0	38	
50	45.8 45.	3 21		50	49.1	48.2	16		50	54.9	5б. 1	27		50	64.0	64.2	40	
52 54	46.0 45.			52 54	46.9 46.8	45.7 45.1	19 20		52 54	53.7 52.8	54.1 54.0	24 23		52 54	68.2 66.0	68.8 66.9	47 44	
56 58	42.5 42.	3 26		54 56 58	43·3 40.7	41.9 38.9	25 30		54 56 58	52.2	53.8	23		54 56 58	64.3	65.0 65.8	41	
1 00	41.9 41.	3 27	-1.0	23 00	38.0	36.1	34	-1.1	1 00	53.I 54.I	54.2 55.4	24 25	+0.9	3 00	64.4 67.8	68.9	42 47	+2.0
02 04	39.9 39. 40.0 39.	3 30		02 04	36.8 36.1	35·3 35·0	36 36		02 04	55.1 55.1	56.2 56.9	27 27	,	02 04	70.3 69.8	70.8 70.3	50 49	
o6 o8	40.2 41.	t   28		06 08	35.6 36.6	34·3 35·3	37 36		o6 o8	56.6	57.8	29	]	o6 o8	66.2	67.0	44	
10	39.9 39. 41.2 40.	o   28		10	37.0	<b>36.0</b>	35		10	56.1 56.1	57·4 57·2	29 28		10	63.2	64.0 63.2	39 38	
12 14	45.0 44.		-1.0	12 14	36.8 38.1	35.9 36.9	35 33	-I.I	12 14	56.2	57.0 56.8	28 28	+0.9	12 14	66.7	66.9 64.1	45 40	+2.1
16	49.3 48.	16		16	40.3	39.9 36.0	29 32		16	55.5	56.2	27 28	10.9	16	65.0	65.6	42	1
18 20	51.0 50. 61.1 59.	0   21 58		20	40.2	41.9	26		18 20	56.1	57.0 58.1	30		18 20	64.2	65.2 69.1	41 48	
22 24	58.3 56. 54.5 53.			22 24	45.0 46.1	43.9 45.0	22 21		22 24	57.1 57.8	58.1 58.2	30 31		22 24	66.2	70.1 66.9	49 44	
26	52.6 51.	1 11		26	45.5	44.7	21		26	57.8	58.9	31		26	63.6	64.3	40	
28 30	52.5 51. 52.1 50.	0 11		28 30	43.I 42.0	41.2 40.6	26 27	-1.2	28 30	57.9 57.2	58.8 58.3	31	+1.0	28 30	63.1 63.1	63.2	39	
32	50.6 50.	1 13		32 34	40.8	39.3 38.8	29 30		32	56.0	57.1	30 28	'	32	64.3 65.9 68.7	65.0 66.5	41	
34 36 38	49.1 48. 50.3 49. 51.8 50.	2 14		36 38	39.9 39.8	38.8	30		34 36 38	55.1 54.1		27 25		34 36	68.7	69.7	43 48 52	
38 40	51.8 50.			38 40	40.3 41.2	39.2 40.2	30 28		38	53.2 52.7	55.2 53.3	25 23		38 40	71.2 72.2	72.2 72.9	52 53	
42	51.5 51.	12		42	42.0 46.9	40.6	27 20	_ T a	42	51.9	52.1	21		42	73.3	74.2	55	+2.8
44 46 48	50.4 50. 50.1 49.			44 46	41.3	39.5	29	-1.2	40 42 44 46 48	53.2 53.2	54.0 53.9	24 24	+1.2	44 46 48	72.5 72.8	73·5 73·9	53 55 54 55	72.0
48	50.8 50. 51.3 51.	) 13		48 50	42.I 42.7		28 27		48	53.1	53.9 52.5	24 22		48 50	73.9 77.1	75.8	22 57 23 0I	
50 52 54 56 58	53.I 52.	00		52	41.0	39.2	29		50 52	50.3	51.0	19		52*	53.5	57.8	00	
54 56	52.6 51. 53.2 52.	3 09		54 56	39.1 37.8	37.6 36.1	32 34		54 56 58	49.3	49.8 49.2	17 16		54 56 58	54.9 54.8	58.7 57.7	23 01	
58	52.1 51.	3 11		58 24 00	36.7	35.5	35 38	-1.2	58	51.0	52.0	20	1	58	51.9	55.0	22 57	

Correction to local mean time is — 55s. 90° torsion = 17.'30. Torsion head at 19h 36m read 48° and at 24h 18m read 55°. Observer—J. V.

Observer—J. V.

Sund	ay, June 19,	1904			Magnet s	cale inv	erted	Mon	day, June 20,	1904				Magne	et scale	erect
hr'r ime	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sc read Left	ings	East decli- nation	Temp C.
m	d d	• ,	•	h m	d d	• ,	•	h m	d d	· ,	0	h m	d	ď	• ,	0
00 02	54.0 50.0 54.8 50.7		+3.4	6 00	33.0 30.1 30.9 28.8	23 31 34	+3.9	8 00	Lost 48.1 50.9	22 60	+ 8.1	10 00 02	43.9 43.5	46.8 46.8	22 53 53	+11.
04 06	54.I 50.9 53.9 51.0	58		04 06	35.1 33.0	27		04 06	42.3 46.8	52		04 06	43.6	46.9 46.1	53 52	
80	51.0 49.0	23 02		08	36.0 35.0	23 25 28		о8	43.2 47.2 40.2 43.9	53 48 46		08	43.I	46.0	22 52	
IO I2	50.0 48.0 49.9 47.5	04		I0 I2	33.9 33.I 30.8 29.9	28 33		10 12	39.3 42.7 37.6 41.8	46		I0 I2	48.8 46.9	50.9 48.9	23 00 22 57	
14 16	49.9 47.7	04	+3.2	14 16	32.9b	29	+3.2	14 16	38.1 41.4	44	+ 8.2	14 16	47.2	48.4	57	+12.
18	49.0 47.0	05		18	30.0 28.0 31.9 31.8	35 31		18	38.8 41.9	44 45		18	47·3 46.8	48.9 47.9	57 56	
20 23	47.9 46.0 47.9 46.8			20 22	33.2 31.8 32.9 31.3	30 30		20 22	37.9 40.2 37.8 40.4	43 43		20 22	47.9 45.6	48.5 46.0	5 <b>7</b> 54	
-5 24 26	47.2 45.9	08		24 26	39.0 37.8	20		24 26	38.8 41.9	45		24 26	44.2	44.9	52	
20 28	46.9 45.2 43.3 41.5	14		20 28	35.9 34.0 38.4 36.5	26 22		20 28	38.0 41.0 38.1 40.9	44 44		20 28	45·7 45·9	46.0 46.1	54 54	
30 32	37.9 36.8 37.9 36.1		+3.4	30 32	40.8 38.3	19 17	+3.0	30 32	38.9 41.C 39.1 41.2	44 45	+ 8.2	30 32	44.0 43.I	45.I 44.0	52 50	
34 34	40.0 38.2	IQ		34	38.1 36.9	22		34	40.2 42.7	47		34	41.4	42.1	47	
34 36 38	42.0 40.4 40.9 39.7			34 36 38	36.7 36.1 37.1 37.0	24		34 36 38	39.5 41.8 41.2 43.1	46 48		34 36 38	42.7 43.0	43·7 44·0	50 50	
40	43.3 41.9	14		40	41.9 41.0	23 16		40	42.3 44.0	50		40	45.0	46. <b>o</b>	53	1.70
42 44 46	49.0 45.3 45.0 43.9		+3.8	42 44 46	42.1 41.0	14	+2.9	42 44	42.5 43.9 43.2 44.8	50 51	+ 9.0	42 44	46.1 46.3	47·4 47·2	55 55	+12.
46 48	45.9 42.6 39.1 38.1			46 48	39.2 39.0 43.5 42.2	19		44 46 48	43.7 45.0 44.9	51 51		44 46 48	46.3 47.0	46.8 47.9	55 56	+12.
50	39.3 37.7	20		50	44.8 43.8	11		50	48.7 49.1	59		50 52	46.1	47.0	55	
52 54 56 58	36.9 35.1 38.1 37.1			52 54	44.9 44.0 42.9 42.0	11		52 54	47.3 48.2 48.9 50.0	57 59		52 54	46.1 44.7	47·3 45·7	55 53	
56	38.8 37.9	21	,	54 56 58	44.I 44.0 40.9 38.9	12		54 56 58	48.7 49.4	59 57		54 56 58	44.6 47.1	45.7 48.0	53 56	
50 00.5	41.9 40.1 40.8 39.0	18	+4.1	7 00	41.9 40.6	16	+2.7	9 00	47.1 47.8	56	+ 9.8	11 00	46.8	47.2	56 55	
02 04	41.1 39.9 38.0 36.3			02 04	43.8 42.1 43.0 42.0	I3 I4		02 04	47.3 49.8 48.8 50.1	58 59		02 04	45.8	47.7 43.1	55 48	+11.
об	<i>3</i> 6.0 35.0	25		06	39.9 39.1	19		oć o8	45.8 46.9	55		o6 o8	44.9	46.4	53 56	
08 01	39.0 38.3 25.0 24.9			08	40.9 40.0 39.1 39.0	17 20		10	45.0 45.8 50.1 50.9	22 53 23 OI		10	46.0 44.8	48.1 46.9	50	
12	23.7 22.0	45	+4.3	12 14	40.0 38.2 37.7 36.9	19 22	+2.5	12 14	46.3 47.0 44.9 46.4	22 55 53	+10.1	12 14	45.0 42.1	46.3	53 49	+11.
14 16	24.0 23.2 25.5 25.1		74.3	16	43.9a	12	12.5	16	46.0 47.1	55	110.1	16	41.7	43·3 43.8	49	' ' ' '
18 20	33.0 32.8 39.9 38.0			18 20	46.1 44.2 38.2 37.8	10 21		18 20	43.0 43.9 44.0 45.0	50 52		τ8 20	43.0 46.1	44·9 47·9	51 56	
22	45.00	10		22	46.1 45.1	09		22	45.1 45.3	53		22	46.8	48.0	56	
24 26	50.9 49.9	01		24 26	40.9 40.1 51.0a	17 01		24 26	41.9 43.1	49 52		24.5 26.3 28	44.I 42.0 44.2	45.8 42.8	52 48	
28	41.0b	16		28 30	48.0 <i>b</i> 37.3 36.9	05 23	+2.6	28 30	42.0 43.8 42.0 43.9	49 49	+10.7	28 30	44.2	44.9 45.9	52 53	+10
30 32	36.2 <i>b</i> 31.2 31.1	24 32	+4.2	32	43.0 41.0	15	12.0	32	42.I 44.I	50	110.7		39.0	40.I	44	
34	20.9 28.8 28.1 27.0	35 38		34 36	40.8 40.0	18		34 36 38	46.9 47.4 45.8 48.0	56 55		32 34 36 38	37·3 38.1	38.4 38.1	41 42	
34 36 38	27.3 26.1	39		38	44.8 43.9	II		38	43.2 45.5	51 56		38	40.8 38.1	44.8 38.9	49	
40 42	27.0 25.0 29.0 26.5	40 37		40 42	46.0 45.0 46.1 44.3	09 10		40 42	45.9 48.6 47.0 48.9	57		40 42	37.5	38.8 38.8	42 42	
14	23.1 21.0	46	+4.1	44 46	45.0 44.0	11	+2.7	44 46	40.5 42.0	46 48	+11.0	44	35.0	36.2	38 38	+ 9
18	19.8 16.6 17.8 14.2	52 56		48	43.8 42.1	13		48	42.0 44.I	49		48	35.2 36.2	36.2 37.0	39	
0	22.8 20.2	47 50		50 52	46.0 44.8 48.9 48.0	10 05		50 52	38.6 41.4 39.1 41.9	45 45		50	35.I 34.0	35.8 34.4	37 35	
52 54	20.3 18.9 24.2 21.5	45		54	50.1 45.9	05 16		54 56	42.2 45.4	51		54	36.5	36.9	39	
44 46 48 50 52 54 56 58	25.I 22.4 30.0 28.8	44 35		54 56 58	42.1 41.1 47.8 46.0	16 <b>07</b>		56 58	43.9 45.7	52 51		42 44 46 48 50 52 54 56 58	35.9 35.1	36.8 36.1	39 38	
50	JUIU 2010	33		8 00	51.2 49.9	oi	+2.9	"	10.7 40.4	5		12 00	35.1 36.5	37.5	40	+ 9.

Correction to local mean time is -26s.  $90^{\circ}$  torsion = 18.46. Torsion head at oh oom read  $57^{\circ}$  and at 8h 17m read  $46^{\circ}$ . Observer—J. V.

Correction to local mean time is + 6s. Torsion head at 7h 45m read 50° and at 12h 30m read the same. Observer—J. V.

#### Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Tues	day, Jun	ie 21,	1904			Ma	gnet s	cale inv	erted	Wed	nesday	, June	22, 1904				Magn	et scale	erect
Chr'r time	Scale readin	ıgs	East decli- nation	Temp. C.	Chr'r time		ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d	 d	0 /	•	h m	d	d	0 /	•	h m	d	d	0 ,	•	h m	d	à	- ,	0
2 00* 02	56.3 5	53.I 53.9	22 37 36	+13.0	14 00 02	59.0 59.4	57·9 57·4	22 30 30	+13.9	0 00*	56.1 56.5	58. I 59. o	22 I3 I4	+9.0	2 00	46.8 46.9	52.I 53.0	22 45 46	+8.0
<b>0</b> 4 <b>0</b> 6	57.8 5	54.9	34 33		04 06	59.2 58.5	57.2 56.6	31 32		04 06	56.0 55.3		13 13		04 06	48.7	54.8 57.2	49	
<b>o</b> 8	58.2	55.9	32		08	57·5 57·8	55.9	33		08	55.0	58.8	13		о8	53.9	59.1	53 56 58	
10 12	57.I	56.1 55.2	32 34		10 12	57.8 58.3 57.8	56.1 57.4	33 31		I0 I2	59.1 58.1	59.9 61.1	17 17		I0 I2	55.2 55.1	60.1 59.6	58	_
14 16	56.1 5	54·3 54·8	35 36	+13.0	14 16	57.8	57.1 57.0	32 31	+14.0	14 16	59.9 61.9	62.1 64.7	19 23	+8.6	14 16	52.0	56.5 57.1	53 54	+8.1
18 20	54.9 5	54.0 53.1	37 38		18 20	58.9	57.8 58.7	30 29		18 20	62.1 63.2	65.3 66.0	23 25		18 20	54.2 54.1	58.1 57.9	56	
22	52.9	51.9	40		22	59.2	58.3	30		22	64.0 65.1	65.9 66.8	25		22	56.0	59.1	54 56 56 58 58	
24 26	56.0	53.0 55.2	38 35		24 26	59.7 60.4	58.3 59.2	29 28		24 26	66.0	67.3	27 28		24 26	56.0 53.9	58.9 57.0	56 54 58	
28 30		52.2 53.2	40 38 38	+13.1	28 30	59.8 59.8	58.9 59.1	29 29	+14.5	28 30	66.3 66.9	67.9 68.1	29 29	+8.o	28 30	56.9 57.2	58.0 60.0	22 60	<del> </del> -8.0
32 34		53.I 51.I	38 42		32	60.1 61.9	58.9 60.5	29 26		32 34	65.5	65.9 62.0	26 20		32 34	57.8 59.0	60.1 61.1	23 00 02	
34 36 38	51.3 5	51.0	42 43		34 36 38	60.9 60.1	59.1 58.9	28 29		34 36 38	60.1 61.2		18		34 36 38	57.9 58.0	60.3 59.9	00	
40	49.8	50.0 49.3	43 44 48		40	50.8	58.1	30		40	62.3	64.0	22		40	бо. 1	62.1	04	1,1
42 44 46		46.7 49.7	48	+13.0	42 44 46	58.9 59.7	57.6 58.0	31	+15.0	42 44	64.9 67.1	66.2 69.0	26 30	+8.0	42 44	60.5 61.1	62.2 63.0	04 0 <u>5</u>	+8.1
46 48		51.6 54.8	40 35		46 48	59.5 58.9	58.2 58.8	30		46 48	68.1 66.6	69.8 68.0	32 29		46 48	63.2	64.9 64.6	80 80	
50 52	57.4 5	55.9 58.7	33 29		50 52	59.9 62.1	59.6 61.9	28 25		50 52	65.0 68.7	66.0 69.8	29 26 32		50 52	64.0 65.0	65.2	09 II	
54	60.0	58.5	20		54 56 58	65.3	64.1	20 2I		54 56	68.9 68.3	70.0	32 31		54 56	64.I 63.I	65.8 65.1	10 08	
56 58	58.9	58.2 57.1	29 31			65.9	64.3	20		58	68.1	68.4	30	1	58	63.9	65.8	09	+8.2
3 00		58.1 57.5	30 30	+12.9	15 00 02	66.1 68.2	65.0 67.5	19 16	+15.3	I 00 02	67.9 66.3		3I 28	+7.9	3 00 02	65.0	66.0 66.9	10	+0.2
<b>0</b> 4 <b>0</b> б		59.5 60.1	28 26		04 06	69.8 73.5	69.3 72.9	13		04 06	65.5	66.9 65.9	27 26		04 06	65.1	67.0 66.0	11	
08 10	бо. т	58.7 60.6	29 26		08 10*	76.4 51.2	75.9 46.2	02 01		08 10	64.2	66.0 66.0	26 26		08 10	64.3	66.2 66.5	10	
12	63.3	62.2	24		12	51.8	44.2	02	+15.7	. I2 . I4	63.5 65.1	64.8 66.8	24	<del> </del> 8.0	12	64.7	66.2	10	+8.5
14 16	61.4	бо.о бо.о	27 27	+13.0	14	52.9	43·3 46.0	22 03 21 60	713.7	16	66.9	67.0	27 28	70.0	16	65.2	66.9	11	170.3
18 20		59.0 58.2	28 29		18 20	52.7 56.1	46.1 50.2	54		18 20	68.1 65.9	68.9 66.8	31 27 28		18 20	66.0	67.7	11	
22 24	50.0	57·5 56.1	31 33		22 24	55.9 53.8	50.2 48.8	54 57		22 24		66.7 67.5	28 20		22 24	66.0	67.8 68.0	12	
26	55-9 !	54.2 53.8	36		26 28	53.9 53.2	49.3 49.0	56 21 57		26 28	70.0	70.2 .0a	33 35		26 28	66.1 66.7	67.9 67.9	13	
28 30	55.5	54.0	37 36 37 38	+13.0	30	50.9	47.I 48.I	22 00	+15.7	30	74.1	74.6	40	+7.9	30	66.1	67.I	12 12	+8.8
32 34	53.9	53.I 53.I	37		32 34	54.2 54.8	49.6	21 57 55		32 34	75.0		40 42		32 34	65.9	67.7	13	
36 38	55.0 56.1	55.0 56.0	36 34 36		36 38	54.2 52.9	49.7 48.9	56 57		36 38	75.1 73.7	76.0 74.0	42 39		34 36 38	66.0 66.2 66.8	67.2	12 12	
40 42	54.7	54·5 56.2	36		40 42	52.0 49.3	47.8 46.1	2I 59 22 02		40 42	72.0 71.0		39 36 35		40 42	67.3	68.1	13 14	
	55-3	55.0 55.2	34 36 34	+13.4	44 46	49.3 47.8 48.9	44.7	05 22 03	+15.6		71.0	71.2	35 35	+7.9	44 46	68.9	69.3 73.1	14 16 21	+9.0
48	56.9	55.8	34		48	55.9 60.1	51.8	2I 53 46		48 50		71.8	35		48	74.0 71.9		24 21	
50 52	56.7	56.0 55.1	33 34		50 52	59.0	55·9 54·4	48		52	74.1	74.8	37 40		50 52	69.1	70.0	17	
44 46 48 50 52 54 56 58	56.8	55·3 56.1	34 33		54 56 58	54.9 58.5 61.8	52.2 56.0	53 47		54 56 58*	77.8	76.5 78.0	43 46		54 56	65.0	66.0	15	
58		57.0	32		58 16 00	61.8	59.2 58.5	42 43	+15.1	58*	46.9	51.1	44		58	62.0	63. <b>o</b>	06	

Correction to local mean time is — 16s.  $90^{\circ}$  torsion = 15.48. Torsion head at 11h 30m read 53° and at 16h 25m read 46°.

Observer—J. V.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	геас	ale lings Right	East decli- nation	Temp C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
ı m	đ	đ	. ,	•	h m	đ		• ,	•	h m	d	đ	• ,	•	h m	đ	d	0 ,	•
00	62.9	64.0 66.2	23 07 IO	+ 9.1	6 00 02	43.I 40.3	46.6 43.8	23 37	+11.1	8 00	15.6	17.6 18.0	22 53	+12.0	10 00 02	14.6	15.0 14.8	22 50 50	+13.
04	65.0	66.0	10		04	37.0	40.0	33 27		04	18.6	20.2	54 57		04	11.3	11.7	45	
06	65.2	66.8	II		06	35.0	37.2	24		06	18.2	19.5	57		<b>o</b> 6	11.3	11.5	45	
08 01	66.9 68.0		13		08	33.9	36.1	22		08	17.2	18.1	54		08	12.3	12.8	47	
12	68.2	68.9	15		10 12	32.9	34.8 32.0	20 16		10	16.5 16.2	17.5 17.3	54 53		IO I2	12.7	13.1 12.6	47 46	
14	67.0	68.0	14	+ 9.3	14	28.0	29.6	12	+11.3	14	18.6	19.6	57	+12.3	14	13.0	13.3	48 48	
16	69.3	70. I	17	' ' "	16	25.9	27.9	09		16	20.2	21.1	59		16	13.7	13.8	48	+14.
18	69.1	70.1	17		18	24.9	26.1	07		18	18.6	19.0	22 56		18	11.6	12.3	46 47	
20 22	66.2	66.8 64.1	08		20 22	22.9 19.0	24.0 20.3	23 04 22 58		20 22	22.3 18.8	22.6 19.1	23 02 22 57		20	12.3	13.1 12.5	46	
24	64.0	65.0	09		24	17.9	19.2	56		24	19.0	20.2	58		24 26	12.1	12.5	46	
<b>2</b> 6	63.1	64.1	07		26	17.0	19.8	56		26	18.6	19.3	57		26	11.9	12.6	46	
28 30	63.8	64.3 64.1	80 80	+ 9.8	28 30	18.1	19.5 18.4	56 55	+11.3	28 30	18.0	18.6 16.0	56 51	+12.6	28 30	11.6	12.0 12.0	46 46	414.
32	61.9	62.0	05	T 9.0	32	16.9	18.0	55	T11.3	32	14.3	14.8	50	712.0	32	12.8	13.0	47	,
34	61.3	62.7	05			16.4	17.3	53		34 36	13.4	13.8	48		34 36	13.0	13.0	47 46 48 48	
36	62.9	64.0	07		34 36	14.9	14.9	50		36 38	13.5	14.1	49		36 38	12.2	12.3	40	
38 40	63.0	64.1 64.1	07		38 40	13.9 12.3	14.0 13.0	49 47		40	15.1 14.7	15.5	51 50		40	13.3	13.7 13.4	48	
40 <b>42</b>	63.9	65.1	07	+10.0	42	12.8	13.1	47		42	15.0	15.2	51		42	12.3	13.0	47	
	63.0	63.9	07	'	44 46	13.9	14.1	49	J-II.7	44 46	16.1	16.3	52	+13.0	44	10.8	11.4	44	+15.
44 46	60.9	61.3	04		46	16.2	17.0	53		46 48	16.9 16.3	17.1 16.9	54		44 46 48	II.2 II.0	11.6 12.0	45 45	
48 50	50.9 58.2	60.0 59.0	02		48 50	15.0 16.2	16.0 17.0	51 53		50	16.3	16.3	53 53		50	11.0	12.1	45	
52	60.9	61.1	03		52.5	16.9	17.9	54		52	14.6	15.1	50		52	10.5	10.7	44 48	
54	63.7	63.9	08		54 56	17.0	18.1	22 54		54 56	14.3	14.6	50		54 56 58	13.3	14.1		
56	63.1	64.1	07		56	23.8	24.3	23 05		50 58	15.6	16.0 17.2	52 54		50 58	15.8	16.2 15.3	52 51	
58 00	61.0	63.2 65.8	06 09	+10.5	58 7 00	24.0 2I.I	24.5 23.0	05 02	+12.1	9 00	17.3	17.6	54 54	+13.4	11 00	12.6	13.1	47	+14.
02	62.9	66.0	09	10.3	02	20.9	21.2	23 00	.0	02	15.1	15.7	51	- /	02	10.8	11.3	44	
04	64.1	67.0	10		04	17.1	18.3	22 55	10	04	14.9	15.3	51		04 06	8.3	8.7 9.2	40 41	
<u>o</u> 6	65.8	66.8	12	1	o6 o8	18.6	19.1	22 56 23 02	1	06 08	13.4	14.2	49 55		08	10.4	10.8	44	
08 10	62.1 64.3	63.2 66.1	06 10		10	22.I 2I.0	23.I 22.0	01		10	14.6	15.6	51		10	10.3	11.0	44	
12	65.8	69.1	13		12	22.8	22.9	03		12	14.5	15.3	50		12	8.5	9.0	41	
14	64.0	67.9	11	+10.8	14	21.2	21.2	00	+12.2	14 16	12.6	13.5	47 48	+13.6	14 16	7.4	8.0 9.0	39 41	+14.
16	66.5	69.0	14		16 18	21.8	22.I 22.0	01 23 01		18	13.1	14.0 14.0	48		18	8.8	8.8	41	ĺ
18 20	72.0 74.1	74.0 76.0	22 25		20	20.I	21.3	22 60		20	13.6	14.9	49		20	8.3	9.0	40	
22*	42.0	45.0	35		22	10.9	20.9	59		22	13.3	14.3	49 48		22	8.2	8.8 9.8	40 42	
24 26	34.0	40.3	25		24 26	18.0	20.0	57		24 26		14.0 14.0	48 48		24 26	9.0	10.1	42	
26 -0	34.9	40.8	26		20 28	17.8 19.1	22.0	55 22 59		28	14.3	15.1	50		28	9.3 8.0	8.8	40	
28 30	35.9 35.0	41.2 40.2	27 26	+10.9	30	19.8	23.2	23 01	+12.5	30	14.3 13.6	13.8	50 48 46	+13.8	30	7.6	8.6	40 38	+13.
32	37.4	43.1	30	,,	32	19.0	22.0	22 59		32	12.1	12.8	46		32	6.9 43.2	7.7 48.0	38	
34	38.2	43.3	31		34 36	19.2	22.0	59		34 36	12.6	12.5 13.0	46 47		34* 36 38	44.7	45.0	39 38	
34 36 38	39.2	45.0	33	i i	30 38	14.0 14.0	17.1	51 51		38	13.6	14.6	49		38	45.2	45.6 46.6	38	
38 10	40.3 41.9	45.9	35 37		40	16.7	19.5	55		40	13.I	13.2	49 48		40	46.5	46.6	40	
12		48.0	37 38		42.3	14.I	16.1	51		42	13.0	13.8	48	+13.8	42	45.6 44.9	45.8	39 38 38	+14.
14	41.9	47.0	37 36	+11.0	44	15.4	18.1	53	+12.1	44 46	12.5	12.6	47 44	T13.0	44	45.I	45.2 45.3	38	1 14.
6 8	42.0	46.0	36		46 48	16.9 16.0	10.1 18.2	55 54		48	II.I	11.6	45		48	46.2	46.5	40	
8		48. I	39 41	Oč.	50		17.9	53		50	12.6	12.8	47		50	45.6	46.0	39 38	
0	45.9 45.0	48.8	40	52		14.5	17.0	52		52	10.	.5 <i>b</i>	43		52	44.7		38	
30 32 34 36 8		50.2	43	\$7. 20	52 54 56 58	14.I	16.2	51		54 56 58	11.0	11.2	44 46		40 42 44 46 48 50 52 54 56 58	44·3 43·9	44.7 44.8	37 37	
6	47.2	50.7 48.1	ε 44 39	200	56	15.3 15.1	17.1	52 53		20		12.6	46		58	12.0	43.3	35	

Observers—J. V. and W. J. P., who alternated from 7h 52m to Observer—W. J. P. Sh ozm.

#### Tabulation of magnetic declinations observed at Teplits Bay-Continued

Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scread	-	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation	l'emp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d	d	0 /	0	h m	đ	đ	0 '	0	h m	đ	đ	0 /	•	h m	d.	d	0, 1	-
2 00	43.I 43.5	44.0 44.3	22 36 36	十14.5	I4 00 02	35.6 33.8	36.3 34.5	22 24 21	+15.6	16 00 02	19.9	20.8 21.6	2I 59 22 00	+15.1	18 00	34.0	34.8 34.1	22 2I 2I	+13.
04	43.0	44.0	36		04	30.8	30.9	16		04	21.2	21.0 22. I	01		04	33.9 33.8	34. I	20	
<b>o</b> 6	42.8	43.0	35		06	31.0	32.0	17		06	23.5	24.0	04		06	33.6	34.1	20	
08 10	43.2	43.6	35		08 10	37.3	37·7 .5b	26 21		08	24.1	25.2 20.8	22 00		08 10	34.1	34.9 35.1	21 22	
12	42.0	42.3	33		12	30.5	30.9	16		12	19.6	20.2	21 58		12	34.2	34.9	22	
14 16	42.3	42.6	34	+15.0	14 16	32.3	32.5	18	+15.5	14 16	22.6	23.5	22 03	+14.8	14	34.1	34.7	21	
18	4I.2 4I.2	41.6 41.8	32 32	,	18	31.9	32.3 31.9	18		18	22.3	23.8 25.1	03 06		16 18	34.9 35.1	35.2 35.5	22 23	
20	42.0	42.I	33		20	31.3	31.3	16		20	24.6	25. I	об		20	35.2	35.8	23	
22 24	41.8	42.I	33		22 24	32.0 31.6	32.0	18		22	25.2 26.2	26.2 27.0	08		22	35.3	35.8	23	
26 26	40.8	42.4 41.0	34 32		26	28.6	31.9 29.0	12		24 26	28.1	28.8	12		24 26	35.I 35.I	35·5 35·5	23 23	
28	40.2	40.3	30		28	<b>2</b> 6.6	26.6	09		28	28.8	29.2	13		28	35.1	35.7	23	
30 32	41.0	41.2 40.7	32 31	+15.2	30 32	30.0	30.6 24.7	05	+15.2	30 32	29.2 30.7	30.0 31.2	14 16	+14.7	30 32	35.2 35.1	35·9 35·9	23 23	+13.3
34	41.0	41.3	32		34 36	24.0	24.5	05		34	32.1	32.9	18		34	35.1	35.9	23	
36 38	39.0	39.3	29		36 38	22.6	23.2	03		36 38	32.9	33.4	19		34 36	35.2	35.9	23	
30 40	38.0 35.6	38. <i>2</i> 36.3	27 24		40	25.3 26.8	26.0 27.0	07		36 40	33.I 32.2	33.9 33.1	20 18		38 40	35.8 36.0	36.1 36.2	24 24	
42	35.5	36.o	23		42	25.1	25.3	07		42	31.1	32.2	17		42	36.0	36.3	24	
44 46	29.8	33·7 31.0	20 15	+15.0	44 46	24.6 25.7	24.8 26.0	06 08	+15.3	44 46	30.2	31.8	16	+14.5	44 46 48	36.1 36.1	36.2	24	
48	31.0	31.6	16		48	25.8	26.I	08		48	30.2 29.9	31.7 31.1	15		48	36.3	36.3 36.7	24 25	
50	36.5	37.1	25		50	25.3	25.3	07		50	30.1	31.3	16		50	37.3	37.9	26	
52 54	36.0 32.9	36.5 34.0	24 20		52 54	26.3	26.3 26.3	09		52	29. I 29. 3	30.3 30.8	14 14		52 54	36.1 36.0	36.2 36.0	24 24	
54 56	32.3	32.6	18		54 56	26.0	26.0	- 08		54 56	29.6	30.7	15		56	35.9	36.1	24	
58	35.6	36.0	24	+15.8	58	26.1	26.3 26.0	08 08		58	31.0	32.0	17	1	58	35.9	36.0	24	
00	34.4	35.6 33.5	22 19	T15.0	15 00	26.0 26.4	26.5	00	+15.1	02	32.I 35.0	32.9 $35.4$	18	+14.1	19 00 02	35.9	36.1 36.2	24 24	+12.
04	33.4	34.I	20		04	25.3	25.4	07		04	35.5	36.o	23		04	35.3	35.9	23	
об 08	32.0	32.3 33.8	18 20		06 08	25.3	25.3 24.2	07 05		06 08	34.0 34.8	34.2 35.3	2I 22		o6 o8	35.I 34.6	35.6	23 22	
10	39.3	40.0	29	ļ	10	24.6	24.8	<b>o</b> 6		10	36.1	36.2	24		10	33.8	35.0 34.1	20	
12	41.0	41.5	32	+16.o	12	24.0	24.3	05	1 7 5 0	12	35.9	36.1	24	,	12	33.1	33.4	19	1
14 16	34.3	34.6 34.5	2I 20	+10.0	14 16	24.7	25.0 23.0	06 03	+15.2	14 16	36.6 37.5	37.0 37.9	25 26	+14.0	14 16	32.8 32.8	33.I 33.0	19 19	+12.
18	38.0	38.9	28		18	21.5	21.7	10		18	37.9	38.1	27		18	32.4	32.6	18	
20 22	38.2 35.7	38.7 36.7	28 24		20 22	21.0	22.I 22.6	01		20 22	38.6	39.0	28		20	32.2	32.2	18 18	
24	36.6	37.2	25		24	21.6	22.3	02		24	41.7	4I.0 42.2	31 33		22 24	32.3 33.6	32.9 34.0	20	
<b>2</b> 6	37.0	37·5 36.6	26		26	22.6	22.8	03		26	41.7	42.I	33		26	34.3	34.9	22	
28 30	35.9 36.6	30.0 37.0	24	+15.8	28 30	23.2	23.9 24.1	04	+15.3	28 30	4I.I 4I.2	41.9 41.9	32	+14.0	28	35.0 35.2	35.3 36.0	22 23	+12.
32	38.3	38.5	25 28	-5:-	32	24.5	25.0	06	1 -5 - 5	32	41.2	41.9	32	1 14.0	30 32	35.5	35.9	23	'
34 36 38	37·3 38.0	37·5 38.0	26 27		34 36	22.8	23.8	04		34 36	41.9	42.3	33		34 36 38	35.3 35.6	35.8	23	
38	37.7	38.9	28		38	23.0	23.2	04		38	40.9 40.3	41.7 41.9	32 32		30	35.0	35.8 36.0	23 24	
40	37·7 38.6	39.0	28		40	25.0	25.3	07		40	40.0	4I.I	31		40	35.6	36.0	24	
42 44	36.6 34.0	36.6 34.6	25 21	+15.3	42 44	22.3	22.5 21.5	02	+15.0	42 44	38.9 38.3	40.3 39.9	29 29	LT2 0	42	36.0	36.3	24	+12.
44 46 48	34.4	34.8	22	123.3	46	24.2	24.8	<b>o</b> 6	23.0	46	38.2	39. I	28	+13.9	44 46	35.9 35.2	36.3 36.0	24 23	712.
48	34.0	34.3	21		48	23.6	24.3	05		48	37.4	38.1	26		48	35.1	35.8	23	
50 52 54 56 58	33.8	34.I 35.9	20 23		50 52	22.8	23.2 24.2	03		50 52	36.0 34.8	36.2 35.0	24 22		50 52	34.6		22 21	
54	35.6	36.0	24		54 56	23.3	24.0	04		54 56	35.0	35.1	22		54 56	33.9	34.6 34.7	21	1
56	36.6	37.0 37.3	25 26		56 58	21.0	22.3 21.4	00 00		56 58	34.3	34.9	22		56 58.7	34.1		21	

	T		22, 1902	1	()	1	Magi	et scale	erect	Thu	rsday,	June 2	3, 1904			M	Iagnet :	scale inv	verted
Chr'i time	r read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	cale lings Right	East decli- nation		Chr'r time	rea	cale dings Right	East decli- nation	Temp C.	Chr'i	rea	cale dings Right	East decli- nation	Temp
h m	đ	d	0,	0	h m	d	d	. ,	•	h m	d	d	0 ,		-	-		. ,	
00	35.0 35.2	35.6 36.0	22 23 23	+11.7	22 00 02	36.0 36.0	36.7	22 24		16 00	48.9	44.2	21 36	+13.6	h m	d 42.0	d 41.0	21 45	+10.
04 06	35.1	35.8	23		04	35.7	36.0 35.7	24 23		02 04	47.8		37 38		02	43.7	42.I	43	,
08	34.7 35.1	35·3 35·9	22 23		06 08	35.0 34.3	35.1	22		06	46.0	42.9	39		04 06	43·3 42.9	41.0	43 44	
10 12	35.2	36.0	23		10	34.1	34·9 34·7	22 21		08 10	45.9	42.5 41.9	39 41		08 10	41.8		45 46	
14	35.I	35.8 35.9	23 23	+11.6	I2 I4	34.0	34·4 34·0	21 20		12	44.1	41.7	41		12	4I.9 4I.9	40.2 40.2	46	
16 18	35.3	35.9	23	,	16	33.2	34.3	20	+10.5	14 16	44.I 43.I	41.0 40.7	42	+12.7	14	40. I 39. I	39.1 38.1	48 50	+ 9.7
20	35.5	35.9 35.2	23 22		18 20	33.8	34·4 34·9	2I 2I		18	42.1	4I.I	44		18	38.5	37.7	50	
22	35.1	35.1	22		22	34.0	34.9	2I		20 22	42.8 43.1	41.8 42.2	42 42		20 22	38.9	38.0 38.9	50	
24 26	35.2	35·7 35·9	23 23	j	24 26	35.0 35.3	35.5 36.1	22		24 26	42.0	41.8	43		24 26	39.6	39.0	49 49	
28	35.3	35.9	23		28	35.0	35.8	23 23		28	41.I 41.I	41.I 41.I	44 44		26 28	39.8 39.0	38.9 38.0	49	
30 32	35.1 35.2	35.6 36.2	23 23	+11.3	30 32	34.9 33.1	35.3	22 20	+10.1	30	42.0	41.9	43	+12.1	30	39.9	39.0	50 48	+ 9.1
34 36	36.0	36.9	24		34 36	32.1	34.I 33.2	18		32 34	42.8 41.9	42.0 41.2	42 44		32	40.5	40.I 40.9	47 46	
38	36.1 35.5	37.0 36.3	25 24		36 38	32.2	33.7	19		34 36 38	41.2	41.0	44		34 36 38	43.1	42.8	43	
40	35.6	36.2	24		40	$\frac{32.7}{33.0}$	33.9	20 20		30 40	4I.I 4I.I	40.9	45 45		38 40	44.2	43.9	41	
42 44		35.8 35.1	23	+11.1	42	33.0	34.2	20	1	42	41.9	41.1	44		42	42.9	43.0	43 44	
44 46	33.1	34.0	20	, 11.1	44 46	32.9 32.2	34.I 34.3	20 19	+10.0	44 46	41.2 42.9	42.3	44 43	+11.6	44 46 48	42.0	4I.I 4I.9	45	+ 8.9
18 50		32.9 32.7	18	]}	48	32.1	33.0	18		48	42.9	41.9	43		48	44.8	43.9	44 40	
2	32.6	33.9	19	H	50 52	31.I 31.5	32.9	18 18		50 52	42.5 42.2	41.8	43 43		50 52	45.9 46.9	45.0	39	
6		33·3 33.8	19 20		54 56	30.2	31.9	16		54	41.9	41.1	44		54	47.0	45.8	39 38 38	
8		34.4	21	11	58	29.9 29.1	31.2	15 14		56 58	41.I 40.0	4I.0 39.9	45 46		56 58	46.0	45.0	39	
0 2		35.1		+11.0	23 00	30.0	31.1	15	+ 9.8	17 00	39.9	39.2	47	+11.2	19 00	45.5 46.0	44.9 45.1	40 39	+ 8.7
1		34·3 33·1	20 18	- 11	02 04	29.8 30.2	31.1	15 16	ĺ.	02 04	39.9 40.1	39.1	47 47		02	46.1	45.8	39	1 0.7
8	31.7	32.8	18	- 11	06	30.9	32.I	17 16		06	40.7	39.8	46		04 06	45·5 44·9	45.0	40 40	
o		32.2 33.0	18	- 11	08	30.6 30.8	31.9	16		08		39.8	47		08	44.9	44.8	40	
2 4	33.1 3	34.1	20		12	31.6	32.5	18			39.0	38.3	47 49		IO I2	44·9 44·9	44.8	40 40	
6		34.7 34.0	21	11.0	14 16.4	32.9 33.5	33·5 34.6	19 21	+ 9.6	14 16	38.9 38.1	38.5 38.1	49 50	+11.1	14	45.9	45.9	39	
3	32.7 3	3.8	19		18	34.2	35.1	22		18	38.2	38.0	50		18		45.6 45.9	39  - 39	+ 8.2
2		2.8	18	ll.			35.2 35.7	22 23				38.2	49		20	45.5	45.I	40	
4	29.8 3	0.2	14			35.2	36.0	23			41.3	41.0	47 45		22 24		44.0	42 42	
8	28.4 2 28.0 2	0. I 8.8	12		26 28	35.9 36.0	36.3 36.3	24 24	- 11	26 28		41.0	45 46		26	43.3	43.0	43	
)	28.0 2	8.0	12 +	11.0	30	36.3	36.9		+ 9.7	30	40.1	39.5	47 -	-10.9	28 30		42.5	44 44 -	+ 8.o
		8.8	12 11		32		37.6 37.5	25	ii.	32	39.2	39. I 38. 2	48		32	43.0	42.0	44	, 0.0
	28.1 29	9. I	12	- 11	36	36.6 3	7.6	25 26	- 11	36	38.7 38.8	38.6	49 49		34 36		42.3 43.2	44 43	
		1.0	14	Ш	38	36.3 3	7.3	25		38	39.0	38.9	49		38	45.0	44.2	41	
٠ ] .		1.3	15	Ш	40 3	36.6 3	7·3   7·3	25 25	- 11			39.3 39.0	48		40 42		44.7   44.8	41	
	32.2 33	3.0		10.7	44 3	36 <b>.8</b> 3	7.6		9.7	44 3	<b>39.9</b> 3	39.4	49 48 48 48	-10.5	44 46	45.9	44.9	40 40 -	+ 7.8
	33.I 34	.8   .o	20 20			7.I 3	8.8 8.9	27 27		48		39.8   39.3	47 48		46 48	46.0	45.1 45.8	40	
1:	32.6 34	8	20		50 3	7.5 3	9.1	27		50 2	0.0 3	39.8	47		50	47.I	46.0	40 38 38	
1	34.6 35 35.1 36		22 23				9.0 9.1	27		$\begin{array}{c c} 52 & 2 \\ 54 & 2 \end{array}$		0.0 0.0	46 46		52	47.0	45.6	38	
3	35.8 36	.9	24		56 3	7.6 g	).2	27 28		56 4	1.9 4	0.9	45		54 56		47.8 48.9	36 34	
3 3 3	36.0 <b>3</b> 6	.9	24	1	58 3		0.0	27   <del> </del> 28   <del> </del>	- 9.8	58 4		1.0	45		58	51.0	50.4	32	
		J		11 34	, 55   3	4		-5		}					20 00	51.9	51.1	30	<del> </del> 7.6

Correction to local mean time is — 1m obs.  $90^{\circ}$  torsion = 17.'49. Torsion head at oh oom read  $46^{\circ}$  and at 24h 15m read  $53^{\circ}$ . Observer—R. R. T.

Correction to local mean time is — 5s. 90° torsion = 18.'21. Torsion head at 15h 42m read 54° and at 20h 20m read 39°. Observer—J. V.

		<b>T</b>	[		0.1		75			g.	ale	East			C-	ale	P4	[
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readin	igs r	East decli- nation	Temp. C.	Chr'r time	read	lings Right	decli- nation	Temp. C.	Chr'r time	read	lings Right	East decli- nation	Temp C.
h m	d d	· ,	6	h m	đ	d  -	• ,	•	h m	d	d	0 ,	0	h m	d	d	. ,	•
0 00	44.0 45.3 44.I. 45.5	22 20 20		22 00 02		46.8 46.0	22 22 22	+8.8	0 00*	50.1 50.2	49.5 49.0	21 51 51	+5.8	2 00	31.1	29.9 29.4	22 2I 2I	+5.2
04 06	44.8 45.9 44.8 46.1	2I 2I		04 06	45.0 4	45.7 45.4	2I 20		04 06	49.9 48.9	48.7 47.8	51 53		04 06	31.0	29.0 28.9	22 22	
08 10	45.0 46.1 45.4 46.6	2I 22		08	43.7 4	14. I 12. 9	18 16		08	50.5	49.7 48.3	50 52		08 10	28.9 28.0	26.8 26.1	25 26	ŀ
12	45.9 46.9	22	+7.6	12	43.0 4	43.I	17	100	12	47.7	46.8	55	1 0	12	28.0	26.8	26	
14 16	46.0 47.0	23 23		14 16	43.0 4	41.8 43.9	14 18	+8.3	14 16	46.0 48.0	45.2 47.0	57 54	+5.8	14	28.9 29.9	27.0 28.1	25 23	+5.2
18 20	46.0 46.2 45.4 46.0	22 21		18 20		44.0 43.I	18 17		18	48.1 48.2	47.2 47.9	54 53		18 20	32.I 29.3	31.0 28.9	19 23	
22 24	45.I 45.3	20 20		22	44.0 4	44.7 42.5	19 16		22	48.7 49.8	47.9 48.0	53 52		22 24	28.1 29.2	27.8 28.2	25 24	
26	44.0 44.9	19		24 26	42.9	43.4	17 18		24 26 28	49.7	48.1 46.6	52		26 28	28.9 26.5	27.9 25.8	24 28	
28 30	44.0 44.5 44.1 44.7	19 19	+7.9	28 30	46.9 4	43.9 47.1	23 26	+8.o	30	48.3	47.4	54 54	+5.8	30	27.0	25.9	27	+5.1
32 34	44.9 45.1	20 20		32 34		49.I 51.2	26 30 28		32 34	50.0	49.3 48.9	50 51		32 34	31.0	30.0 32.9	21 16	į
34 36 38	44.I 44.9 44.I 44.8	19 19		36 38	50.I 5	50.1 47.8	28 24		34 36 38	48.0 47.9	47.I 46.9	54 54		34 36 38	32.5	32.0 28.1	18 24	
40	44.4 44.8	20		40	45.0 4	45.I	20		40 42	48.1	47.0 46.9	54		40	30.7	29.I 29.2	22 22	
42 44	44.3 44.8 44.7 44.8	19 20	+8.o	42 44 46	45.8	44.9 46.1	19 22	+7.9	44 46	47.9 47.9	46.9	54 54 56	+5.9	42 44	27.9	26.9	26	+5.1
44 46 48	45.0 45.1 44.9 45.1	20 20		46 48	45.5 4	45.6   44.8	21 19		48	47.0 48.9	46.0 48.1	50 53		44 46 48 50	26.1 26.0	25.I 25.I	29 29	
50 52	44.2 44.9 44.2 44.9	19 19		50 52	44.3	45.0 45.9	20 21		50 52	55.I 54.0	54.7 52.0	43 46		50 52	25.9 25.0	24.9 23.9	29 30	
54 56	44.2 44.6	19		54 56	45.0 4	46.8 45.0	22 19		54 56 58	56.9 55.1	56.5 54.7	40		52 54 56	24.3 23.0	23.5 22.I	31 34	
58	44.4 44.9 44.2 45.0	20 20		58	45.8	46.1	22	1 = 0	58	52.0	51.0	43 48		58	22.1	21.5	35	1
00	44.1 45.0 44.0 45.1	19	+8.2	23 00 02	46.1 4	48.0 47.1	24 23	+7.8	I 00 02	50.0	50.8 49.3	49 51	+5.9	3 00	22.9 21.8	21.0	34 35 36	+5.0
04 06	43.9 45.3 44.1 45.4	20 20		04 06		47·5 48.0	24 24		04 06	50.I 49.I	49.8 48.1	50 53		04 06	2I.I 2I.0	20.7 20.1	37	
08	44.9 45.8 44.8 45.9	2I 2I		08 10	47.1	48.4 48.8	24 25		08	47·7 47·3	47·5 46·1	54 55		08	21.9		35 35	
12	45.8 46.9	22	10.	12	47.8	49.I	26 26	1 = 0	12	47.5	46.7	55	1 = 0	12	21.9	21.2	35 32	+5.0
14 16	44.9 46.8 45.3 46.3	22 22	+8.3	14	49.0	49·3 50.0	27 28	+7.8	14 16	48.2		54 54	+5.8	14 16	23.2 24.8	24.0	31	7.5.*
18 20	45.8 46.9 45.7 46.1	22		18		50.1 50.4	28 29		18 20.5	48.8	47.0 46.9	54 54		18 20	26.0 28.8	25.7 27.9	28 24	
22 24	45.8 45.9 44.6 44.9	22 20		22 24		52.0 52.1	30 30		22 24	48.5 49.8	45.9 45.0	55 54		22 24	30.I 31.0	29.2 30.1	22 21	
26	42.5 43.0	17		26 28	52.2	53.0 52.0	32		26 28	48.1	44.I	56		26 28	30.8	29.8	2I 22	
28 30	42.3 43.I 42.9 44.I	17		30	52.I	53.8	30 33	+7.5	30	47.9 44.9	4I.I	2I 57 22 0I	+5.6	30	29.9 29.5	28.8	23 26	+5.
32 34	43.I 45.0 42.0 43.9	19 17	115	32 34	53.0	54.9 55.0	34 34		32 34	44.0	40.9 39.0	02		32 34	27.9 25.9	27.1 25.0	29	
34 36 38	42.9 44.2 44.1 45.4	18	1 %	36 38	53.I 53.7	55.1 55.3 55.1	35 35		36 38	42.5 41.8 40.8	38.9 37.8	06 07		36 38	24.0		31	
40	45.2 46.7	22	•	40	53.I	55.1	35		40	40.1	37.5	08		40	18.1	18.0	41	
42 44	46.0 47.0 46.0 47.0	23 23 16	+8.7	42 44 46	51.8	54. I 53.3	33 32	+7.3	42 44 46	39.9	37.3	08	+5.4	42 44 46	14.0	13.3	44 48 48	+5.
46 48	42.0 42.8 47.2 47.7	16 24		48	51.1	53·4 52.8	32 31		48	38.3 35.7	36.1 33.7	10		48	13.5	18.2	40	)
50	47.7 48.0 47.3 47.9	25 24		50 52	51.0	52.3 51.9	30 30		50 52	34.0		17		50 52	18.2		40	
50 52 54 56 58	47.1 47.6	24		54 56	50.2	51.3 51.1	29 29		54 56	32.0	31.2	19		54 56	12.0		51 51	:
58	46.1 47.0 45.5 46.3	23 22		58 24 <b>0</b> 0	50.0	51.0	29 29 29		58	27.7		23 27		58	11.1	10.9	52	

Correction to local mean time is — 26s.
Torsion head at 16h 52m read 40° and at 24h 13m read the same.
Observer—J. V.

#### MAGNETIC OBSERVATIONS

## Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Sund	ay, June 26,	1904				Magn	et scale	erect	Mon	day, Jun	ne <b>27</b> ,	1904			Ma	gnet s	cale inv	erted
hr'r ime	Scale readings	East decli- nation	Temp. C.	Chr'r time	Sc. read	_	East decli- nation	Temp. C.	Chr'r time	Scal readir	ngs	East decli- nation	Temp. C.	Chr'r time	Sca readi	ngs	East decli- nation	Temp C.
m	d d	٠,		h m		d	0 ,	-	h m			· ,		h m	d	d	0 ,	
00 <b>*</b> 02	50.0 50.7 50.8 52.1	22 51 52	+5.9	6 00	44.0	46.2	23 34	+4.8	8 00*		54·5 59·I	23 25 18	+10.2	IO 00 02	33.I 18.1	28.1 11.2	23 07 32	+12.
04	52.3 53.1	55		02 04 06	42.0 46.9	45.1 49.0	31 38		04	62.0	60.0	15		04*	63.3	49.1	45	
o6 o8	51.9 53.2 51.3 53.0	54 54		06 08	50.0 52.7	51.9 54.9	43 48		06 08		56.8	18 27	1	o6 o8	52.4 70.0	45.5 61.1	57 31	
10 12	51.1 52.8	53		10	51.5	52.8	45		IO I2	62.8	51.3 55.8 66.5	17 23 02	1	10 12	74.8	66.3	23 22	
14	50.7 52.1	53 53	+5.1	I2 I4	49.9 48.1	50.8 49.0	42 39	+4.8	14	74.9	69.1	22 58	+10.1	14	74.7	66.1	24	+12.
18 16	50.2 52.0 50.0 51.0	52 51		16	43.0	44.7 41.9	32 28		16 18	68.3	62.0 59.8	23 08 23 13		16 18	62.8	56.8 64.0	40 29	
20	49.0 50.2	50		20	40.9	41.9	28		20	76.3	71.8	22 54		20	65.	06	32	
22 24 26	50.0 51.8 51.1 52.3	52 53		22 24	41.9 39.1	43.I 4I.O	30 26		22* 24	52.0	34.I 43.6	52 39		22 24 26	63.9 72.1	63.7 61.4	33 29 28	
26 28	52.0 53.1 52.3 53.7	54 55		26 28	46.1 46.1	48.5	37		26 28	48.0	38.4 42.6	47 42		26 28	72.7 69.9	62.0 58.2	28 33	
30	53.8 54.2	57	+5.0	30	44.7	48.0 46.1	37 34	+4.8	30	48.I	40.8	45	+10.9	30	55.9	47.6	52	+13.
32 34	54.4 55.1 55.8 56.1	58 22 60		32 34	43.0	45.0 44.9	32 33		32 34		34.8	22 55 23 15		32 34	61.5	55.9 69.8	4I 20	
34 36 38	57.3 59.0	23 03 08		34 36	41.1	42.5	29		34 36	27.7	21.9	23 15		34 36* 38	53.9	51.1	23 02	
40	60.8 62.0 59.9 61.0	08		38 40	40.0 40.1	41.0 41.6	27 27	7	38 40	33.4	27.0 35.8	23 07 22 54		40	59.2 63.9	56.5 58.8	22 53 48	
42	59.0 59.7 59.1 60.9	05 06	+4.9	42	42.2	43.1	30	1.0	42 44	37.0	33.I 27.9	23 00	+11.2	42	70.2 61.1	66.2 57.3	37 51	+13
14 46 48	59.1 60.8	<b>o</b> 6	T4.9	44 46	42.I 40.I	42.5 40.2	30 26	+4.8	46	24.9	27.8	13	111.2	44 46 48	55.4	51.8	60	T-13
48 50	58.8 59.3 61.0 61.9	04 08		48 50	39.9 36.9	40.3 38.0	26 22		48 50		13.7 23.1	30 17		48 50	59.9 63.0	54.1 60.8	54 47	
50 52	63.0 63.8	11		52	43.1	43.7	31		52	22.2	15.8	25		52	69.5	65.9	47 38	
54 56	63.0 64.8 64.9 67.0	12 15		54 56	42.7 44.1	43.6 45.0	31 33		54 56	29. I	25.0 24.0	15 13		54 56	72.3	68.7 72.1	33 28	
58 00	66.1 68.3 67.2 69.9	17 20	+4.8	58 7 00	45.1	45.5	34	147	58 9 00		18.3	23 21 22 58	+11.8	58 11 00	76.3	71.7 69.0	28	+13
02	67.1 69.1	19	74.6	02	42.5 40.1	43.I 41.2	30 27	+4.7	02	39.1	30.2	23 00	11.0	02	62.9	59.1	33 48	1.3
04 06	68.3 69.1 68.2 69.9	20 20		04 06	38.6	39.0 38.8	24 22		04 06		38.0 30.0	22 52 23 02		04 06	61.9	57.2 58.6	50 50	
<b>o</b> 8	69.0 70.3	21		08	40	.9a	27		08	31.9	26.9	23 08		08	63.7 68.8	60.2	47 38	
IO I <i>2</i>	69.9 70.9 69.7 70.4	22 22		10 12	42.I 39.2	42.1 39.8	29 25		10 12	42.I	35.0 37.2	22 57 22 52		I0 I2	78.1	74.1	30	1
14 16	69.9 71.0	22	+4.8	14 16	39.9	40.1 44.8	26	+4.7	14 16		24.8	23 I3 I7	+12.0	14* 16	49.8	42.9 38.9	40 46	+13
18	71.5 72.9 70.0 71.9	25 23		18	44.I 43.9	44.0	33 32		18	36.8	32.I	23 01		18	37.1	32.1	22 59	
20 22	69.1 71.0 67.4 68.3	22 18		20 22	44.3 48.1	44.9 48.3	33 39		20 22	1 '~	40.2 44.9	22 48 42		20 22	21.1	18.2 16.1	23 22 24	1
24.	69.2 70.9	22		24	43.4	44.6	32		24	51.8	4Q. I	36		24	17.8	16.1	26	
26 28	69.2 70.9 69.7 70.3 67.0 67.0 69.8 71.2	22 17		26 28	42.0 42.9	42.3 43.I	29 31		26 28	54.I 52.I	50.8 48.2	32 36		26 28	23.1 25.8 18.9	19.8 21.1	19	
30	69.8 71.2	23	+4.7	30	40.7	40.9	27		30 32	52.1 44.0 48.1 55.0 58.0	42.I	47 41	+12.0	30 32	18.9	14.5 13.1	27 23 32	+13
34 <sup>2</sup>	70.9 71.5 43.0 48.2	24 35		32 34 36	43.0 40.2	43.7 40.8	31 27		34 36	55.0	51.6	31		34 36	54·5 56.0	49. I	22 32	
36	46.3 51.1 44.0 48.1	40 35		36 38	39.I 45.0	40.0 46.6	25 35		36		53·9 56·3	27 23		36 38	50.0	53·3 44·5	27 39	
28 30 32 34 36 36 40	45.0 49.0	37		40	45.0	45.6	34		40	56.2	50.2	31		40	53.8	44.3	36	
12	46.1 50.0 47.2 51.1	38 40	+4.7	42 44	45.2 42.0	46.0	35 30	+2.4	42 44	58.9	49.3 52.0	31 28 28	+12.0	42 44	69.3	50.1 54.9	26 15 16	+14
46	46.8 50.3	39	' '	46	38.9	40.0	25		46 48	58. I	52.2 61.5	28		44 46 48	70.1	52.9 52.3	16	
48 50	45.3 49.2 47.3 50.8	37 40		48 50	36.3 38.8	37·7 39.8	21 25		50	71.9	64.1	08		50	68.4	51.2	19	
52	46.0 49.0	38		52	37.0 33.6	37·3 34·5	21 16		52		57.9 46.4	18 35		52	64.8	53·3 54·0	20 21	
44 46 48 50 52 54 56 58	45.2 48.4 45.0 48.0	37 36		44 46 48 50 52 54 56 58	34.0	36.0	18		54 56 58	47.0	39.9	46		54 56 58	56.2	45.9	33	
58	43.9 46.3	34		58	33.9	35.2	17	+4.9	58	38.9	34.0	22 58		12 00	49.9	46.6 41.2	37 43	

Correction to local mean time is — Im oos. 90° torsion = 13.'42. Torsion head at oh oom read 40° and at 8h 17m read 42°. Observer—J. V.

Correction to local mean time is — 1m 46s. No torsion observations. Torsion head at 8h oom read 43° and at 12h 05m read 33°. Observer—R. R. T.

Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scread	ings	East decli- nation	Temp.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp C.
h m	d	ď	• ,	•	h m	d	đ	۰,	•	h m	d	d	• ,	•	h m	d	d	• ,	•
2 00	46.2 44.9	47.8 45.2	22 29 26	+21.2	14 00 02	42.0 42.2	43.0	22 22	+20.0	0 00*	51.8	50.9 50.0	22 25 27	+5.1	2 00 02	34.0 35.1	33.2 35.1	22 53	+4.9
04.3	45.3	46.4	27		04	42.7	43.7 43.8	23		04	51.1	50.2	26		04	33.3	32.8	50 54	
06 08	46.1 46.0	46.4 46.4	28 28		06	42.0 43.1	46.1 44.1	24 23		06 08	51.8 52.2	50.7 51.2	25 24		06 08	34.7 35.1	34.I 35.I	52 50	
10 12	46.2	47.I	28		10	45.3	46.0	27		10	52.4	51.7	24		10	37.8	37.2	47	
14	44.0	47.0 44.4	29 24	+20.9	I2 I4	47.0	47.6 47.0	29 28	+20.0	I2 I4	52.4 52.0	51.8 51.2	24 25	+5.0	I2 I4	33.2	32.I 30.I	54 22 58	+4.9
16 18	43.9 43.5	44.2	24 24		16	43.5	44.0 45.I	24 25		16 18	51.3	50.9	25	-	16 18	24. I	23.9	23 08	, 4.3
20	45.0	44·4 45·9	26		20	44.0	44.6	25		20	51.4 51.8	50.9 51.1	25 25		20	21.7 24.1	20.8 22.9	I2 09	
22 24	45.0 45.9	46.1 46.1	26 27		22 24	43.2	44.I 44.0	23 22		22 24	52.8 52.7	52.2 52.0	23 23		22 24	24.4	23.1 21.1	09 08 12	
26	45.2	46.2	27		26	41.1	43.2	21		26	52.1	51.8	24		26	19.7	18.1	16	
28 30	45.9 45.2	47.9 47.0	29 27	+20.4	28 30	41.4	42.2 4I.I	2I IQ	+19.9	28 30	52.6 53.1	51.9 52.6	24 23	+5.0	28 30	16.0	15.2 16.9	21 18	+5.0
32	45.9	46.9 48.9	27 28		32	40.1	42.0	19 20	-	32	53.0	52.1	23	13.5	32	17.9	17.8	18	13.0
34 36 38	47.2 48.0	49.7	30 32		34 36	39.4	42.2 40.9	18		34 36	52.7 51.0	52.I 50.3	23 26		34 36	19.1 23.9	18.1	16 09	
38 40	47.7 47.8	49. I 48. 9	3I 3I		38 40	4I.0 4I.I	42.0 42.2	20 20		38	50.1 48.8	49.2	28		38	23.9	23.1	09	
42	47.I	48.3	30		42	41.9	42.I	21		40 42	48.2	47.8 47.4	30 30		40 42	22.9 22.9	21.9	10 .10	
44 46 48	46.7 41.7	48.0 42.3	29 21	+20.1	44 47	42.3	42.9 41.7	22 20	+19.7	44 46	48.0 48.1	47.8 47.9	30 30	+4.9	44 46	23.9 23.5	22.2	10 09	+5.0
48	46.9	48.0	29		47 48	41.1	42.0	20		48	48.8	48.3	29	İ	48	23.8	23.1	09	
50 52	47.2 45.3	47.8 46.0	30 26		50 52	40.I	40.5 41.0	18 18		50 52	48.9 48.8	48.2 48.0	29 30		50 52	21.9	20.2 19.1	13 14	
54 56	45.8	46.3	27		54 56	41.0	41.9	20 18		54	48.0	47.2	31		54 56	18.2	17.3	14 18	
50 58	47.1 46.5	48.0 47.0	30 28		58	39.2 40.5	40.9 40.9	19		56 58	49.0	48.2 47.5	29 31	İ	50 58	18.9	18.2	16 13	
3 00	46.0 45.1	46.9 46.2	28 26	+20.0	15 00 02	40.2 40.I	41.0 41.1	19 19		I 00	47.8	47.0	31	+4.9	3 00	22.1	2I.I 22.I	12 10	+5.0
04	45.I	45.8	26		04	40.8	41.8	20		02 04	47.9	47.I 47.I	31 31		02 04	22.5	21.4	11	1
об 08	45·5 46.2	46.2 47.3	27 28		06 08	41.3	42.I 42.0	20 20		06 08	47.2 47.1	46.7 46.4	32 32		o6 o8	20.3	19.2 19.0	15 15	
10	47.I	48.1	30		10	40.5	41.4	19	+19.0	10	46.1	45.4	34		10	19.6	18.9	15	
12 14	48.0 47.6	49.0 48.0	31 30	+20.0	12 14	39.3	40.8	18		I2 I4	44.9 44.7	44·3 43·9	36 36	+4.8	12 14	19.0 16.9	18.2 16.2	16 20	+5.1
16 18	46.8	47.1	29		16 18	40.2	41.8	19		16	43.8	43.2	37 38		14 16	16.0	14.9	21	'
20	43.3	44.0 42.9	23 22		20	39.0	39.0	16		18 20	43.1	43.I 43.I	38		18 20	16.8	15.3 15.3	20 20	
2 <b>2</b> 24	43.8	44.0 45.8	24 26		22 24	38. I 38. I	38.2 38.4	15 15		22 24	43.4	43.0 41.1	38 41		22	15.8	14.7 14.7	22 22	
26	46.8	47.0	29		26	37.I	37.9	14		26	41.7 38.9 40.2	38.3	45		24 26	15.5 16.0	15.7	21	
28.6 30	48.9	. 1 <i>a</i> 49. <b>I</b>	30 32	+20.0	28 30	38.1	38.4 37.9	15 14	+18.3	28 30	40.2 39.4	38.3 39.8 38.7	43 44	+4.8	28 30	16.7 17.8	16.1 17.1	20 18	+5.3
32	48.9	49.5	31		32	37.1 36.9 36.2	36.9	13		32	39.9	39.1	44	14.0	32	19.0	17.4	17	1
34 36 38	46.0	46.2	31 27		34 36	35.9	37·5 36.9	I3 I2		34 36 38	39·9 40·7	39.8 40.2	43		34 36 38	17.3	17.5 16.4	17 19	
38 40	45.8	46.0 .oa	27 32		38 40	38.7 37.7		16		38	40.5	40.0	42		38	18.0	17. I 16.9	18 18	
42	48.0	49.0	31		42	37.7	38.2	14		40 42	41.4	40.I 40.3	42 42		40 42	17.8	16.9	18	
44 46 48	45.9 46. T	46.8 47.0	28 28	+20.0	44 46	36.0 36.1	36.7 37.1	12 12	+17.8	45 46		4I.0 4I.0	4I 40	+4.9	44 46	18.0	17.0	18 16	+5.8
48	47.0	48.4	30		48	34.5	35.8	10		48	41.9	40.7	41		48	18.3	18.0	17	
50 52	47.I 47.2	48.1 48.1	30 30		50 52	34.I 35.I		09		50 52	40.8 39.9	39.3 38.6	43 44		50 52	16.9	16.2 17.2	20 18	
50 52 54 56 58	48.0	49.0	31		54 56 58	37.3	38.2	14		50 52 54 56 58	35.9 34.8	34.9	50		42 44 46 48 50 52 54 56 58	18.9	18.1	16	
50 58		49.8 4 <b>7.3</b>	32 29		50 58	35.2 36.8	36.0 36.8	11	+17.0	50	34.8	33.9 31.9	52 55		50 58	10.1	17.2 18.9	18 15	

Correction to local mean time is - 36s.

Observer-R. R. T.

Torsion head at 11h 42m read 52° and at 16h 17m read the same. Observer—J. V.

hr'r ime	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sc read Left	_	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
m	d	d	0 /	•	h m	d	đ	0 /	•	h m	d	d	۰,	0	h m	đ	ď	• /	0
00 02	18.9 17.0	18.9 16.3	23 16 20		6 00	54.9 52.9	53.1 50.9	23 31	+6.9	8 00	53·7 54·9	50.I 51.I	22 47 46	+8.8	IO 00 02	55.0 52.5	53.6 51.5	22 43 47	+ 9.0
04	17.1	16.8	19		04	52.1	49.9	34		04	54.I	51.1	46		04	53.2	53.2	47	
06 08	19.1	18.2 18.0	16		06 08	45.3	42.8	46		06 08	52.8	49.7	48		06	54.5	54.0	44	
10	15.1	14.0	17 23		10	47.2 48.1	44·4 45·3	43 42		10	54.0 55.0	51.0 52.1	46 45		08	57·5 56.5	56.7 55.7	39 41	
[2	12.8	12.1	26		12	48.2	45.5	42		12	53.5	50.4	47		12	54.7	54.2	43	
[4 [6	13.0 13.4	12.7 13.1	25 25	+6.0	14 16	49.0	46.2 46.3	4I 4I	+7.1	14 16	52.I 53.7	49.6 50.2	49 47	+9.0	14 16	52.6	52.3 53.3	46 45	+10.
8	12.0	12.0	27		18	49.7	47.0	40		18	54.8	51.7	45	19.0	18	54.8	54.0	43	
20 22	9.8	9.I 9.I	31 31		20	49.2	47.5	40		20 22	51.5	49.9	49 58		20	54.6	53.6	43	
4	13.0	11.9	26		22 24	46.5	44·9 45·9	44 42			46.0	44.7 48.2	50 52		22 24.3	55.6 55.3	54.5 54.8	42 42	
26 28	13.0	12.1	26		24 26	50.2	49.1	42 38		24 26	50.9	48.8	50		24.3 26	55.2	54.7	42	
;O	12.1	II.2 IO.I	27 29	<b>+6.</b> г	28 30	52.9 53.8	50.9 51.3	34	+7.3	28 30	51.0 59.0	49.2 56.7	50 38	+9.1	28 30	55.0 54.3	54·5 53·9	43 44	<b>-</b> -10.
2	10.2	9.8	30 28	, 5	32	55.3	53.3	30	17.3	32	58.8	57.0	38	19.~	32	55.3	55.3	42	10.
6	11.8	II.2 IO.0	28 30		34 36 38	55.9 54.2	54.I 52.9	29 31		34 36 38	55.0	53.1 52.4	44 45		34 36 38	56.0	56.0	4I 4I	
8	9.9	9.1	31		38	53.0	51.5			38	55.9	54.I	42		38	56.0	55.3 55.0	41	İ
0	10.3	9.9	30		40	51.0	50.1	33 36		40	59·3 50.8	57.1 48.1	37	1	40	54.6	54.3	43	
2 4	9.8	9.9	29 31	+6.1	42 44	60.1	50.0 59.9	36 21	7-7	42 44	51.2	48.9	51 50	  - <del> -</del> 9.2	42 44	55.6	54·3 53.8	42 44	+10.
6	8.1	7.4	34		44 46 48	60.8	59.2	21	' '	44 46	52.8	50.6	47	-	44 46 48	54.3 54.8	54 - 3	43 46	
18 50	9.1	8.7 9.2	32 31		50	56.8	55.2 55.0	27 28		48 50	51.I 48.2	49·3 46·3	50 55		48 50	53.I 53.0	52.3 $52.0$	46 46	
52	8.8	8. r	32	İ	52	54.1	53.7	31		50 52	51.8	49.6	49		52	54.5	53.9	44	
4 6	7·5 8.7	6.6 7.4	35 33		54 56	53.9	52.8 57.2	32 24		54 56	48.3	48.7 47.7	52 53		54 56	55.6 57.4	55.2 57.3	42	
8	9.1	8.3	32 28		58	68.o	65.9	10		58	47.0	46. I	22 56		58	58.0	57.8	39 38	
0	10.9 12.0	10.9 11.7	28 27	+6.2	7 00 02	72.5 66.1	72.0 64.1	02 I3		9 00 02	44.2 46.8	42.9 45.6	23 00 22 56	+9.8	II 00 02	55.2 51.2	54.6	42 48	+10.
12 14	8.9	8.7	32		04	68.3	66.1	IO		04	49.0	47.4	53		04	52.2	51.0 51.3	48	
6*	60.0	49.7	29 28		06 08	70.8	69.2	06		06 08	51.2	50.2	49		o6 o8	55.2	54.3	43	
8	60.1 62.1	51.0 53.9	26 24		10	73.3	71.9 75.1	23 OI 22 56		10	55.7 58.0	55.0 57.4	42 38		10	58.5	58.0 56.0	37 41	
2	59.9	51.1	28		12	77.2	76.0	55		12	57.2	56.2	40		12	56.3 52.8	52.3	46	1.
6	60.2 60.9	52.6 53.8	27 25	+6.3	14 16	76.4 75.3	75·5 74.0	56 58	+8.1	14 16	51.7 48.3	51.0 47.3	48 54	+9.6	14 16	52.8 53.1	52.6 52.6	46 46	+11.
Š	60.7	54.0	25		18	74.4	73.5	22 59		18	L	ost			18	55.2	55.0	42	
0 2	58.0 57.1	51.2 51.0	30 31		20 22	74.0	73.0	23 00 22 59		20 22	51.3 49.7	50.3 49.0	49 51		20 22	56.0 55.2	55·3 54·3	41	
4	56.0	50.I	32		24	75.8	73·7 74.8	57		24	50.3	48.6	51		24	55.0	55.0	43 42	
5	56.0	50.1	32		26 28*	77.9	77.2 46.2	54		26 28	51.8 51.8	50.2	49		26	57-5	57.0	39	
8	59. I 59.9	54.0 55.1	27 25	+6.6	30	54.0 55.6	49.I	50 46 48	+8.2	30	51.0	50.3 49.4	49 50	+9.5	28 30	59.1 59.5	58.3 59.0	39 36 36 36	+11.
5	56.9	51.2	31 36	•	32	54.I	49.2	48		32	52.3	51.3	47		30 32	59.5 59.5 58.5 58.0	59.0	36	,
4	52.7 48.1	48.2 43.9	30 43	l:	34 36 38	52.3 50.4	47.8 46.0	50 53		34 36	53.0 51.3	52.2 49.7	46 49		34 36 38	58.0	58.3 57.3	37 38	
š	48.4	44.5	42		38	52.0	47.8	50		38	51.1	50.2	49		38	57·3 59.0	56.8	39 36	
4 6 8 0 2	52.1	48.3	37	li	40 42	51.3 49.2	47.2 45.8	51 54		40 42	52.3 52.0	51.9 50.3	47 48		40	59.0 59.7	58.6 59.0	36 36	ĺ
4	50.0 47.9	47.2 45.1	39 42 46	+6.7		50.2 51.8	45.8	54 53 50	+8.7	44	51.5	50.0	49	+9.6	44	60.0	59.3	35	+11.
5	45.4	43.2	46	-	46	51.8	47.9	50		44 46	51.3	50.8	49 49 46		46	60.0	59.3 59.8	35 35	
5		42.6	47 46		40 50	51.1 52.6	47·3 48.5	51 49		48 50	53.1 52.9	52.6 51.7	46 46		40 50	60.2 59.6	59.2 59.0	35 36	
2	44.8	43.0	46	Į	52	52.9 52.8	49.1	49		52	51.3	50.0	49 46		52	58.3	57.6 58.5	35 36 38 37	
4	45.9	45.6	43		44 46 48 50 52 54 56 58	52.8 52.9	49.0	49 49		54 56 58	53.I 55.I	51.5 53.5	46 43		42 44 46 48 50 52 54 56 58	59.6 58.3 58.7 58.3 58.0	58.5 58.0	37	
4 6 8 0 2 4 6 8	56.5	51.I 54.0	34 29	li li	58	53.0	49.3	48		58		52.3	45		58	58.0	57.8	37 38	

Observer-R. R. T.

Observers—R. R. T. and W. J. P., who alternated from 8h 42m to 9h 00m.

vv ea		June	29, 1904	· · · · · · · · · · · · · · · · · · ·		Ma	ignet s	cale inv	erted	Wed	nesday	, June	29, 1904	,		M	agnet s	scale inv	erted
Chr'r time	Sca readi Left	ngs	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Tem C.
h m	d	d	0 ,	•	h m	d	d	0 /	•	h m	d	d	· ,	•	h m	d	d	0 ,	•
2 00		57.0 57.0	22 38 38		14 00	39.4	38.2 38.3	22 09	+11.8	16 00 02	39.9	39.0 40.1	22 08 07	+12.2	18 00 02	34.8		22 16	1
04		56.3	40	l	02 04	39.7	39.0	09		04	40.5 39.9	39.7	07	712.2	04	37.1 32.9		12	+12.
o6 o8		57.3	39	+11.6	06	42.3	41.3	04		06	40.0	39.8	07		06	33.9	33.5	17	
10	57.4	58.4 57.0	37 39		08	42.2	40.8 40.8	05 05		08 10	40.2	40.0 41.3	07 05		08 10	33.1 33.8	32.9 33.5	18	
12	57.8	57.0	39		12	42.0	41.5	04		12	43.6	42.9	22 02		12	32.5	32.0	19	
14 16		58.3 58.2	36 37	+11.6	14 16	42.0	41.0 42.7	05 02	+11.8	14 16	40.1	45·3 49.1	21 58 52	+12.0	14 16	31.9 32.1	31.8	20 20	+12
18		59.5	35		18	41.6	40.9	05		18	49.9		51		18	32.9	32.1	19	
20 22		60.3 61.0	33		20	40.9	40.4	06		20.5	49	.3b 47.7	53		20	32.3	32.I	19	
24		61.9	32 31		22 24	41.4	41.3 41.6	05 04		24	46.0	45.7	55 58		22 24	31.8	31.1 31.0	20 2I	
26		63.6	28		24 26	42.5	42.0	04		26	45.8	45.1	58		26	30.5	30.0	22	Ì
28 30		66.5 67.8	24 22	+11.6	28 30	43.7	43·3 41·5	02 04	+11.7	28 30	45.0 44.9	44.2 44.2	60 60	+12.0	28 30	30.1 30.6	29.2 29.9	23 22	+14
32	67.3	66.8	24	,	32	43.1	42.9	22 02	1	32	45.0	44.2	60	122.0	32	31.1	30.9	2I	714
34 36		66.6 67.8	24 22		34 36	45.3	45.1	21 59		34	45.7	45.0	21 59		34 36	32.1	31.8	20	
38	69.3	68.4	21		38	46.5	46.3 48.3	57 54		36 38	44.0 42.0	43.0 41.1	22 02 04		38	32.6 32.1	32.0 31.9	19 20	
40		67.2	23		40	48	oa	54		40	43.1	42.8	22 02		40	31.3	31.0	20	
42 44		67.0 67.3	23 23	+11.8	42 44	47.2 48.3	47.2 47.3	56 55	+12.0	42 44	45·5 47·3	44.7 46.1	21 59 56	+11.9	42	31.0 30.0	30.2 29.3	22 23	+12
44 46	67.6	67.3	23	,	46	46.6	45.9	57	1 -2.0	46 48	46.4	46.0	21 57	11119	44 46 48	28.9	28.2	25	1 ***
48 50		66.0 66.1	24 25		48 50	47.2 46.0	46.0 45.2	57 58		48 50	44.2	44.0 46.1	22 00 21 57		48	28.4 28.9	27.9 28.1	26	
52	66.5	66.3	24		52	47.7	46.3	56		52	45.0	44.3	60		50 52	20.9 29.1	28.9	25 24	
54 56		6 <b>7.3</b> 68.0	23		54 56	47.2	46.2	56		54	46.3	45.9	21 57		54	29. I	29.0	24	
58	68.8	68.6	22 2I		58	50.5	49.0 51.1	52 48	+12.3	56 58	44.8	43.7 44.0	22 00 22 00		56 58	29.1 29.0	28.9 28.9	24 24	
00		67.6	22	+12.0	15 00	50.0	49.0	52	' '	17 00	47.9	47.7	21 55	+12.0	19 00	28.9	28.5	25 26	+12
02 04	67.5 ( 68.1 (	67.3 67.8	23 22		02 04	49.0	48.2 47.6	54		02 04	50.9 52.0	50.0 51.8	51 48		02	28.2 28.1	28.0 27.9	26 26	
<b>o</b> 6	68.4	68.3	21		06	48.0	46.6	54 56		06	51.9	50.9	49		06	28.3	28.0	26	
08		68.7 69.6	2I I9		08 10	48.0 48.5	47.0 48.2	55 54		08 IO	51.1	50.2	50 52		08 10	29.0 28.9	28.5 28.1	25 25	
10 12		69.5	20		12	51.3	50.0	50		12	49.9 50.0	49.0 49.2	52 52		12	28.7	28.0	25 25	
14		70.I	18	+11.7	14	47.0	46.0	21 57	+12.6	14	51.9	50.9	49	+12.0	14	29.6	28.0	24	+12
16 18		71.0 72.2	17 15		16 18	43·3 45.0	43. I 44.6	22 02 21 59		16 18	50.3 50.2	49.9 49.5	51 52	•	16 18	29.8 30.0	28.7 29.0	24 23	
20	72.6	72.6	15		20	49.0	47.5	54 56		20	49.5	49.I	52		20	30.0	28.9	24	
22 24		73·3 72.2	14 15		22 24	47·3 50.0	46.0 49.5	50 52		22 24	48.2 47.1	47.9 46.7	54 21 56		22 24	30.0 29.3	28.9 28.0	24 25	i
26	73.4	73.0	14		26	45.3	44.7	21 59		26	44.2	42.8	22 02		26	29.I	28.0	25	
28	74.3	74.3	12	1 77 6	28	42.3	41.1	22 04	1.70.0	28	43.3	43.0	02		28	29.2	28.2	25	+12
30 32	74.8 74.8	74.0 74.3	I2 I2	+11.6	30 32	40.5	39.8 41.0	07 05	+12.9	30 32	43.7 43.9	43.1 43.7	02 01		30 32	29.5 29.3		24 24	T12
34 36	74.0	73.7	13		34 36	41.9	41.1	05		34 36	43.0	42.9	02		34 36 38	29.I	28.3	25	
38 38	76.4 75.8	70.2 75.3	09 10		30 38	41.2 41.1	40.4 40.6	06 06		30 38	42.3 41.9	42.0 41.0	04 22 05		30	29.0 29.0	28.0 28.0	25 25	
40	76.0	75.7 I	10		40	41.3	40.8	05		40	45.2	45.0	21 59		40	28.7	27.0	25 26	
42	76.8 76.7	76.8	08 09	+11.5	42	42.9	42.3 38.5	03 08	+12.8	42	39. I 38.8	39.0 37.5	22 08 10	+12.1	42 44 46	28.4 28.5	28.0 27.9	26 26	+11
44 46 48*	74.0	73.0	13		44 46	39.0	38.6	09	1 -2.0	44 46	36.1	35.9	13	[-14·1	46	28.9	28.1 28.0	25	' * *
48*	37.5	36.3	12		48	39.4	38.8	80		48	36.9	36.0	13		48	28.8	28.0	25	
50 52	38.2 43.6	37·4 41.6	10 03		50 52	39.0 39.0	38.2 38.7	09 09		50 52	36.9 36.0	36.7 35.9	12 13		50 52	28.2 28.0		26 26	
52 54 56 58	45.0	43.9	00		54 56	39.0	38.8	09		54	35.0	35.7	14		54	27.9	27.0 27.0	27	
50	42.3 39.7	41.3	04 08		56 58	39.3	38.8 40.3	08 06		54 56 58	30.7 36.6	36.1 36.0	13 13	-	52 54 56 58	27.8	27.0 27.0	27 27	

Observer-W. J. P.

Observers—W. J. P. and J. V., who alternated from 15h 58m to 16h 12m.

Tabulation of magnetic declinations observed at Teplitz Bay-Continued

Wed	nesday	June	29, 1904	<u> </u>		M	agnet s	cale inv	erted	Thur	s <b>day,</b> J	June 30	, 1904				Magn	et scale	erect
Chr'r time		ale lings Right	East decli- nation	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Temp.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr's time	read	ale ings Right	East decli- nation	Tem.
h m	d	d	9 ,	0	h m	d	d		•	h m	d		• ,	•	h m	d	d	. ,	•
000	28.1 28.3	27.7 27.9	22 26 26	+10.8	22 00	36.9	36.5	22 12	+7.9	16 00	50.2	52.2	22 19		18 00	47.7	49.I	22 16	+5.4
04	28.0	27.5	26		02 04	36.8 36.9	36.2 36.6	12		02 04	50.9	52.I 53.0	19 21		02 04	47.7 47.2	48.9 48.2	16 15	
06	27.0	26.9	28 28		06	36.9	36.8	12		06	50.7	52.2	19	+6.o	06	47.I	48. I	15	
08 10	27.0 27.1	26.9 26.6	28 28		08	37.I 37.0	36.9 36.9	I2 I2		08 10	50.0 48.8	51.3	18		08	46.6	47.2	14	
12	27.6	26.9			12	36.1	36.0	13		10	47.5	50.1 49.2	14		10	45.I 44.0	46.I 45.2	10	
14	28.3	27.9	27 26	+10.2	14	35.9	35.3	14	+7.0	14	46.8	48.2	13	+6.0	14	42.8	44.I	08	+5.
18 18	29.0 29.1	28.1 28.1	25 25		16 18	35.2 36.5	35.2 36.0	14		16 18	47.0 47.1	48.8	14		16 18	41.3	43.0	07	
20	29.1	28.7	24		20	36.2	36.1	I3 I3		20	47.1	49. I 49. I	14		20	40.9 40.1	42.0 41.7	05 04	
22	30.0	29.2	23		22	36.0	35.5	14		22	47.8	50.1	16		22	39.6	41.1	03	
24 26	30.2	29.9 29.2	23 23		24 26	35.9 36.1	35.2 35.9	14		24 26	48.6 48.9	50.0	16		24 26	39.1 38.8	40.8	03 02	
28	29.8	2Q. I	24		28	39.0	37.3	13		28	48.8	49.9 49.3	16		28	38.2	40.0	02	
30	29.1	28.9	24 26	+ 9.9	30	41.0	38.9	07	+6.1	30	48.6	49. I	16	+5.8	30	38.1	39.4	10	+5.4
32 34	28.3	28. I 27. 5	20 26		32	42.3 38.0	40.1 36.5	05 11		32	48.7 49.6	49.3	16		32	37.6 37.1	39.1 38.8	00	
36	27.9	27.5	26		34 36	39.9	38.8	08		34 36	50.0	50.3	17		34 36 38	37.1	38.5	22 00	
38	29.0	28.9	24		38	37.3	35.9	12		36 38	50. I	51.1	18			36.9	38. I	21 59	
40 42	29.9 30.2	29.8 30.1	23 22		40 42	39.1	37.I 37.I	IO		40	50.8	51.9	20 20		40	37.0 36.5	38.1 37.8	59	
44	30.9	30.7	21	+ 9.2	44	37.9	37.1	II	+6.0	42 44	51.1	52.I 52.0	20	+5.9	42 44	36.2	37.6	59 58	+5.
46 48	30.8	30.0	22		44 46	38.2	37.8	10		44 46 48	51.1	51.9	20		44 46 48	36.8	<i>3</i> 8.0	59	. •
48 50	30.2 30.1	29.5	23	1	48 50	39.9	38.8 36.0	08 12		48 50	51.2 51.8	51.9	20 21		48	36.8 36.8	38.0	59	
52	30.0	29.2 29.8	23 23		52	37.0 37.0	36.2	12		52	51.2	52.1 51.9	20		50 52	36.1	37·9 37·7	59 59 58 58	
54 56	30.2	30.0	22		54 56	36.0	35.2	14	-	54 56	51.1	51.8	20	1	52 54 56	36.6	37.8	58	
56 58	31.3	31.0	2I 20		56 58	34.9	33.8	16 17		56 58	50.8	51.0	19 18		56 58	35.1 36.9	36.1 38.7	2I 56 22 00	
50	32.I 32.I	31.5	20	+ 8.8	23 00	34.I 34.0	32.9 32.8	17	+5.8	17 00	50.0 49.6	50.3	18	+5.8	19 00	37.8	39.9	02	+5.4
02	31.1	30.9	21	,	02	34.1	33.0	17	, 5	02	48.1	50.2	16	10.	02	38.9	40.9	03	
04	31.3	30.9	21		04 06	34.1	32.8	17		04 06	48.5	50.3	17		04 06	40.0	42.0	05 06	
o6 o8	32.I 33.3	32.0 33.2	20 18		08	34.3 34.6	33.I 32.8	17 17		08	50.0	51.3 52.4	20		08	40.6	42.2 41.9	05	
IO	33.8	33.2	17 18		10	38.1	37.I	11		10	49.3	50.8	18		10	39.7		04	
12	33.5	33.1		+ 8.8	12	41.9	40.9	05 05	+5.2	12 14	49.3	50.7	18 21	1 5 7	12 14	40.0		05 06	1.1 = .
14 16	33·9 33·5	33.I 32.9	17	7 0.0	14 16	42.0 41.9	40.9 40.9	05	₩75.2	16	51.2	53.I 52.8	21	十5.7	16	40.6	42.0 41.9	06	
18	33.9	33.2	17		18	38.5	38.1	IO		18	52.8	54.0	23		18	40.9	41.8	06	
20	34.0	33.9	17 16		20	35.1	34.0	16 20		20 22	54.1	55.0	25 28		20	41.8		07 08	
22 24	34.1	33.9	08		22 24	33.0 41.7		07		24	55.9 56.0		28		22 24	42.3 43.8	45.0	10	
26	35.9	39·4 35·5	14		26	35.2 36.9	32.8	16		26	56.0	56.9	28		26 28	43.9	45.3	11	- 1
28 30 32	37.1	30.9	12		28	36.9	33.9	14	1	28	56.6	57.7	29	156		44.2	45.0	12	
30	38.7	38.0 38.7	08	+ 8.9	30 32	43.0 42.0	42.I 30.0	03 06	+5.0	30 32	57.0 57.6	58.0 58.2	30 30	+5.6	30 32	44.6 44.9	45.9 46.0	12 12	
34	39.3	38.4	09		34	45.9 26.0	39.0 38.0	04		34	58.2 58.8	58.9	31	1	34	44.6	46.0	12	
34 36 38	39. I	38. I	09		34 36 38*	26.0	18.1	22 35		34 36 38	58.8	59.2	32		34 36 38	43.8	45.I	II	
38	38.9	37.7	10 11		38 <b>*</b> 40	49.8 78.0	24.0	23 24 23 02		30 40	58.0 57.3	58.8 57.9	31 30		40	42.7 41.2	44.0 42.3	09 06	
40 42	37·5 37·2	36.9 37.0	12		42	70.7	64.8	22 36		42	54.5	54.9	. 26		42	40.0	4I.I	05	
44	36.9	36.2	12	+ 9.0	44 46	61.9	48.0	56	+5.0	42 44 46 48	50.6	51.1	19	+5.6	44 46 48	38.6	40.I	03	+5.
44 46 48	36. I	<i>3</i> 6.0	13		46 48*	79.0 47.0	75.0 42.0	2I I3		40 48	48.6 48.1	49.0 48.1	16		40	37·3 37·2	38.9 38.7	01	
48	35.7	35.1 35.2	I4 I4		50	41.0	35.5	23		50	47.2	47.0	14		50	38. I	39.4	02	
52	35.3 35.8	35.6	14		52	46.0	40.8	15		52	46.8	47.3	13		52	39.2	40.8	04	
54	36.8	36.2	12		54 56	40.0	35.9 18.8	24		54	46.6	47.4	13		54 56	39.7 39.8	40.9	04	
50 52 54 56 58	37.I	36.9	12 11		56 58	18.7	40.0	54 14		50 52 54 56 58	46.9	48.0 48.8	14 16		58	39.8	4I.I 4I.9	05	
50	37.7	37.1	11		24 00	50.9	43.7	09	+4.9	50	77.0	43.3			20 00	40.0		06	+4.

Correction to local mean time is — 58s. 90° torsion = 19.'21. Torsion head at oh oom read 51° and at 24h 20m read 53°. Observer—J. V.

Correction to local mean time is — Im 26s. 90° torsion = 17.76. Torsion head at 15h 35m read 53° and at 20h 15m read 36°. Observer—Not noted.

Frida	y, Jul	y 1, 19	04			Ma	gnet s	cale inv	erted	Frida	y, July	7 1, 190	04			M	agnet s	scale inv	erted
Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	Sc. read Left		East decli- nation	Temp.	Chr'r time	read	ale lings Right	East decli- nation	Гетр. С.	Chr'r time	11.5	ale lings Right	East decli- nation	Temp C.
h m	d	d	9 /	•	h m	đ	d	٥,	0	h m	d	d	• ,	•	h m	d	d	0 /	•
20 00*	46.9	43.2	21 37	+4.1	22 00	11.1	9.4	22 19	+5.3	21 00	54.3	49.9	33	+4.8	23 00	45.4	43.9	00	+7.0
02	45.1	42.5	39		02	9.2	9.2	20		02	50.0	45.9	40	, ,	02	47.9	45.9	22 06	117.0
04	45.2	52.2	39		04*	34.2	30.8	28		04	45.1	40.3	48		04	52.1	51.1	21 58	
<b>o</b> 6	47.3	42.9	37		06	35.3	30.1	28		06	51.1	47.0	38		06	55.5	53.9	53	
o8	50. I	45.9	32	·	o8	37.9	32.5	24		o8	47.3	44.0	43		08	57.0	54.9	51	
10	51.1	47.2	30		10	40.9	35.9	19	1	10	53.2	50.8	33	i :	IO	57.7	56.1	50	1
12	52.8	48.8	28		12	44.1	38.9	14		12	47.8	42.2	44		12	56.8	55.3	51	
14	52.9	48.8	28	+4.2	14	44.0	40.2	13		14	47.9	43.0	44	+4.9	14	58.3	57 - 4	48 46	+6.9
16	52.9	49. I	28		16	44.9	40.4	12		16	46.0	37.7	49		16	60.2	59.0	46	
18	54.1	51.0	25		18	37.0	33.9	24 38		18	48. I	44.9	42		18	59.9	57.9	47	1
20	56.0	53.1	22		20	27.9	24. I	38	İ	20	50.1	44.I	20 41		20	57.8	56.1	50 56	
22	55.5	52.1	23		22	28.0	25.1	38		22	37.8	30.9	2I OI		22	54.2	52.1	50	
24	57.1	54.9	20		24 26	32.0	28.5	32		24 26	45.4	36.8	20 50		24 26	51.2	49.9	60	
26 28	57.2	55.2	19		20 28	28.3	25.0	37		20 28	47.1	40.1	46 28		20 28	56.7	54.3	52 46	i
	57.7	55.6	19	140		27.0	24.5	39	+6.7	30	59.5	51.2 46.3	37	+5.0		59.8 63.9	58.5 62.6	40	16.
30	57.9	56.2 58.0	15	+4.3	30	34.I	31.9	27 18	70.7		53.3		20 54	73.0	30	65.2	64.0	40 38	+6.4
32	57.8	55.0	19		32	40.1	37.I 38.9	16	1	32	43.2 35.1	34·7 28.2	21 05		32	65.1	63.8	38	
34 36	54.4	52.I	24		34 36	36.9	34.5	23	]	34 36	46.3	39.2	20 48		34 36	62.9	61.3	36 42	
38	55.0	53.I	23		38	38.0	36.2	21		38	50.3	42.9	42		38	59.1	58.2	47	
40	56.2	54.3	21		40	42.8	40.5	14		40	45.0	37.0	50		40	55.1	53.9	54	
42	61.1	59.0	13		42	43.1	41.8	12		42	37.I	34.0	20 59		42	56.4	55.2	52	
	65.0	63.2	07	+4.5		47.1	46.0	22 06	+6.9	44	33.1	28.2	21 07	+5.1	44	60.0	59.3		+6.2
44 46	63.2	61.5	21 10	, , , ,	44 46 48	52.1	51.1	21 58	, -	46	28.1	24.4	14		46	61.0	60.3	44	
48	75.3	72.0	20 52		48	54.5	52.9	55	1	48	21.1	15.0	26		46 48	58.7	58.1	47	
50	75.1	69.1	54		50	54.3	52.3	55 21 58		44 46 48 50*	37.5	30.0	42		50	54.9	53.0	54	
52	77.8	71.8	50		52	53.0	50.5			52	38.2	35.0	42 38		52	51.5	51.1	54 58 58	l
52 54* 56	48.9	4I.I	44		54 56	49.9	48.1	22 02		54 56 58	30.9	26.9	50		54 56 58	51.7	51.0		
56	59.9	51.9	27		56	47.0	45.8	06		56	28.9	25.8	21 52		56	57.6	56.8	49	
58	59.4	52.3	27		58	46.1	44.2	08		58	18.2	18.1	<b>22 0</b> 6		58	57.7	56.2	50	

Correction to local mean time is — 4s. 90° torsion = 18.'18. Torsion head at 19h 36m read 57° and at 24h 14m read 56°. Observer—Not noted.

#### REDUCTIONS FROM DECLINATION OBSERVATIONS AT TEPLITZ BAY

#### DIURNAL VARIATION

For the purpose of determination of empirical formulæ to express the diurnal variation in the magnetic declination it was decided, in accordance with the general present tendency in magnetic reductions, to include all of the observed values without elimination of any as "disturbances". The few observations made between September 28 and October 4, 1903, are not, however, included in the discussion as it was deemed that some time was necessary before the routine and stability of observation could be properly established.

The scheme of work carried out, as per program on page 17, was such that continuous observations were made throughout one day of each week. On each of four of the remaining days of the week observations were made for four hours continuously, and on one other day of the week for eight hours continuously. These latter observations were so made as to cover, when taken together, twenty-four hours numbered consecutively. There was thus obtained in each week the equivalent of two days' continuous observation. The means of the thirty observed values of the magnetic declination from one hour to the succeeding hour, as per the tabulation of pages 41 to 274, have been taken as corresponding to the half hours local mean time. Strictly speaking account should be taken of the chronometer corrections on local mean time but as these were usually very small and varied in sign the resulting error is much below the order of accuracy of the results arrived at and may, therefore, be disregarded. In order to have the mean values correspond strictly to the mean epoch of the period under discussion, the series was divided into intervals of four weeks each. Thus we have for each period, with few exceptions, eight mean values for every hour, each resulting from thirty observations. The means of these means have been taken as the hourly values applying to the mean epoch of the period in question.

The resulting hourly values of the declination for each interval and for the mean of the whole period during October 4, 1903, to July 1, 1904, at the Teplitz Bay station are exhibited in the following tabulations, which are arranged according to local mean time, civil reckoning, from midnight through twenty-four hours. Figures 5 to 15 show these values graphically, the mean observed declinations being indicated by circles joined by broken lines; the smooth curves shown on these figures represent the computed values resulting from the analytical expressions for the diurnal variations deduced from the same (see pages 290 to 291).

#### Tabulation of mean hourly magnetic declinations at Teplits Bay

Four weeks, October 4 to October 30, 1903

22° plus tabular quantity, east

h 0.5	h 1.5	h 2.5	h 3⋅5	h 4.5	<i>h</i> 5⋅5	h 6.5	<i>h</i> 7∙5	h 8.5	h 9.5	h 10.5	h 11.5
	Su	ıda <del>y</del>			Sur	ıday			Мо	nday	
	4, 11,	18, 25			4, II,	18, 25			5, 12	, 19, 26	
′	/	/	/	,	,		,	,	,		,
40.4	41.5	45.4	45.2	52.8	67.4	73.4	52.9	33.9	33.2	33 7	35-4
• • • •				••••			• • • •	48.7	33.7	26.1	21.1
28.0	36.5	40.3	28.5	39.0	.50.1	58.9	63.8	44.7	27.0	27.2	17.1
32.1	29. I	34.0	31.4	36.4	38.4	34.9	31.0	68.8	48.1	47.9	45.7
					Wedn	esday					
					7, 14,	21, 28					
32.3	32.0	36.7	44.6	39.1	50.9	45.1	44.5	44.9	33.9	20.2	22.5
48.1	53.0	123.0	145.9	126.2	80.7	77.5	81.9	65.9	45-3	44.0	31.7
33.2	34.5	37.9	35.6	36.6	36.6	36.7	36.4	36.4	35.8	34.3	33.0
33.0	35.5	48.7	53.4	46.3	57.5	63.9	50.6	35.3	29.8	28.7	28.2
35.2	37.4	52.3	54.9	53.8	54.5	55.8	51.6	47.3	35.8	32.8	29.3

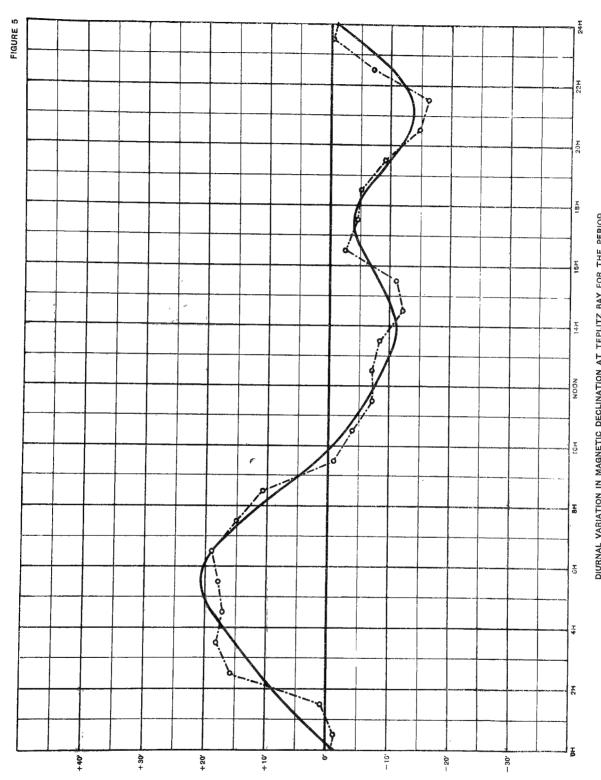
#### Tabulation of mean hourly magnetic declinations at Teplitz Bay

Four weeks, October 4 to October 30, 1903—Continued

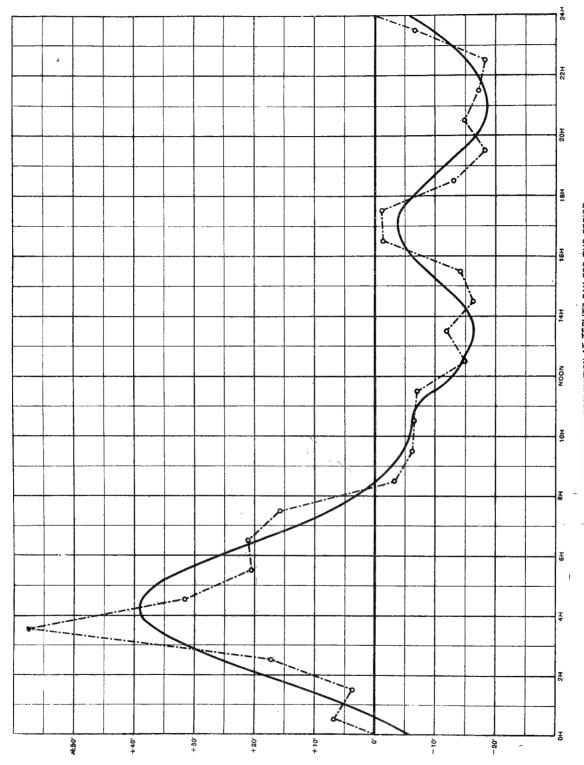
22° plus tabular quantity, east

h 12.5	h 13.5	h 14.5	h 15.5	h 16.5	h 17.5	h 18.5	<i>h</i> 19.5	h 20.5	h 21.5	h 22.5	h 23.5
	Tue	esday			Thu	ırsday			Fı	iday	
	6, 13,	20, 27			8, 15,	22, 29			9, 16	23, 30	
,	1 /	1 / 1	,	,	,	,	, ,	,	, ,	/	,
17.0	06.8	08.7	10.0	03.3	00.3	20.9	19.0	26.2	27.8	32.5	33.7
28.9	52.0	33.8	26.9	26.4	62.2	40.5	41.2	21.5	29.0	13.3	26.9
<b>29</b> . I	29.0	28.0	28.2	88.9	95.9	81.2	77.0			i	••••
26.1	19.3	36.5	35.7	50.6	11.9	23.3	14.2	15.2	13.9	24.3	21.5
					Wedi	nesday					
					7, 14,	21, 28					
16.8	19.9	12.1	19.1	23.5	20.2	21.0	27.8	20.0	09.9	57.6	46.4
62.5	45.2	24.7	37 <b>·9</b>	26.8	15.8	13.8	03.1	31.4	20.9	27.0	53.8
31.3	29.9	28.0	27.9	27.7	28.4	28.6	27.3	27.7	29.6	32.2	42.5
23.3	22.8	21.9	18.8	24.8	21.3	21.6	17.6	11.6	10.8	19.4	27.6
29.4	28.1	24.2	25.6	34.0	32.0	31.4	27.6	21.9	20.3	29.5	36.1

Mean value for the whole period, 22° 36.7 E.



DIURNAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY FOR THE PERIOD OCTOBER 4, 1908, TO OCTOBER 80, 1908
(Observed mean values shown by circles joined by broken line; computed values shown by the continuous curve. Increasing ordinates up denote increasing east declination.)



DIURNAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY FOR THE PERIOD NOVEMBER 28, 1903

(Observed mean values shown by circles joined by broken line; computed values shown by the continuous curve. Increasing ost declination.)

### Tabulation of mean hourly magnetic declinations at Teplitz Bay

Four weeks, November 1 to November 28, 1903

22° plus tabular quantity, east

h 0.5	h 1.5	h 2.5	h 3.5	h 4.5	h 5⋅5	h 6.5	<i>h</i> 7∙5	h 8.5	h 9·5	h 10.5	h 11.5
	Su	nday			Su	nday			Мо	nday	
	r, 8,	15, 22			1, 8,	15, 22			2, 9,	16, 23	
,	,	, ,	,	,	, ,	, ,	,	,	,	, ,	,
139.5	124.7	135.7	305.7	193.0	146.4	182,2	177.5	58.7	66.9	53.1	51.8
39-5	48.2	45.3	63.2	71.9	79.1	66.6	64.4	43-3	38.8	36.3	35-7
33.8	42.4	48.9	47.1	51.5	45-4	44.5	42.4	38,6	40, 1	39-3	36.9
28.7	34.7	68.1	137.1	118.2	96.6	104.1	63.3	31.4	27.2	27.2	23.7
					Wed	nesday					
					4, 11,	18, 25					
56.9	55.8	53-4	42.0	49.7	57.4	55.6	48.2	47-5	39.2	57.1	70.8
70.2	29.8	93.5	154.1	79.8	47.7	53.8	64.9	51.5	50.6	40.8	41.0
47.5	50.6	50.4	69.0	48.o	46.9	22.4	31.0	67.6	56.6	61.7	51.3
35.8	40.5	40.3	40. <b>6</b>	39-4	41.3	37.9	33.9	31.4	27.7	28.6	30.8
56.5	53.3	67.0	107.4	81.4	70.1	70.9	65.7	46.2	43.4	43.0	42.8

#### Tabulation of mean hourly magnetic declinations at Teplitz Bay

Four weeks, November 1 to November 28, 1903—Continued

22° plus tabular quantity, east

h 12.5	h 13.5	h 14 5	h 15.5	h 16.5	h 17.5	h 18.5	h 19.5	h 20.5	h 21.5	h 22.5	h 23.5
	Tue	esday			Thu	ırsday			Fri	iday	
	3, 10,	17, 24			5, 12	, 19, 26			6, 13,	20, 27	
,	,	, ,	,	,	,	/ /	,	,	,	/ /	,
18.8	45.4	33.1	35.0	34.0	35.2	24.6	24.5	46.2	50.3	35.3	39.8
32.3	48.0	48.5	40. I	56.8	69.7	44-3	35.3			•••	
39.6	22.6	07.3	40.1	34.4	29.3	27.8	24.8	44.5	37.2	44-4	54.9
25.0	39.8	44-4	45.3	34.2	35.4	34.8	33. I	32,8	32.2	26.8	49.6
					Wed	nesday					
					4, 11,	18, 25					
26.7	28.0	34.1	20,8	134.3	77.3	21.4	30.3	29.9	30.2	21.7	26.9
52.7	54.8	39.8	54.1	42.8	71.0	74.9	54.0	40.4	20.6	22.5	43.6
50.8	34.2	29.6	18.0	16.1	26.1	25.3	23-4	18.2	25.5	40.1	53.3
32.0	30.1	29.1	30.1	33.6	43.5	40.2	24.4	31.5	30.5	29.0	32.8
34.7	37.9	33.2	35-4	48.3	48.4	36.7	31.2	34.8	32.4	31 4	43.0

Mean value for the whole period, 22° 49./8 E.

## Tabulation of mean hourly magnetic declinations at Teplitz Bay Four weeks, November 29 to December 26, 1903

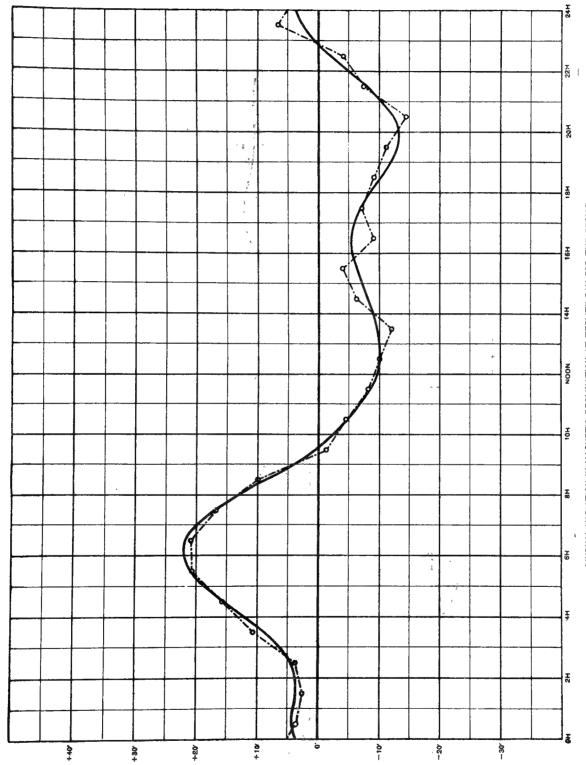
22° plus tabular quantity, east

h 0.5	h 1.5	h 2.5	ћ 3.5	h 4.5	h 5·5	h 6.5	h 7.5	h 8.5	<b>h</b> 9-5	h 10.5	h 11.5
	Sur	ıday			Sur	ıday			Mor	ıday	
	29, 6,	13, 20			29, 6,	13, 20			30, 7,	14, 21	
,	/	/	,	,	/	,	,	,	1 /	,	,
43.0	46.6	48.1	46.6	60.2	87.0	73.9	84.1	39.0	31.4	30.5	31.2
93.4	66.3	56.5	54.1	56.5	60. <b>o</b>	46.0	41.1	28.6	19.1	24.7	23.5
40.6	37.5	39-4	41.4	43.7	55-7	77.5	55.2	62.5	60.2	49.4	44.0
35.6	35.1	46.3	88.8	73.1	77-3	92.6	50.6	65.0	63.1	61.2	43.7
					Wedn	esday					
					2, 9,	16, 23					
37.6	47.0	49.7	71.5	81.5	83.6	88,6	105.4	110.3	75.7	74.0	65.7
50.4	<b>5</b> 3·5	50.7	59.0	81.5	5 <b>3</b> ·5	49.1	52.4	44.8	36.1	26.9	27.3
47-4	50.6	53-4	48.8	48.5	61.8	56.4	49.0	42.3	36.5	37-3	33.2
45.8	50.6	51.9	43.5	48.9	52.8	49.5	64.6	53.9	35.6	25.6	32.7
49.2	48.4	49.5	56.7	61.7	66.5	66.7	62.8	55.8	44 7	41.2	37.7

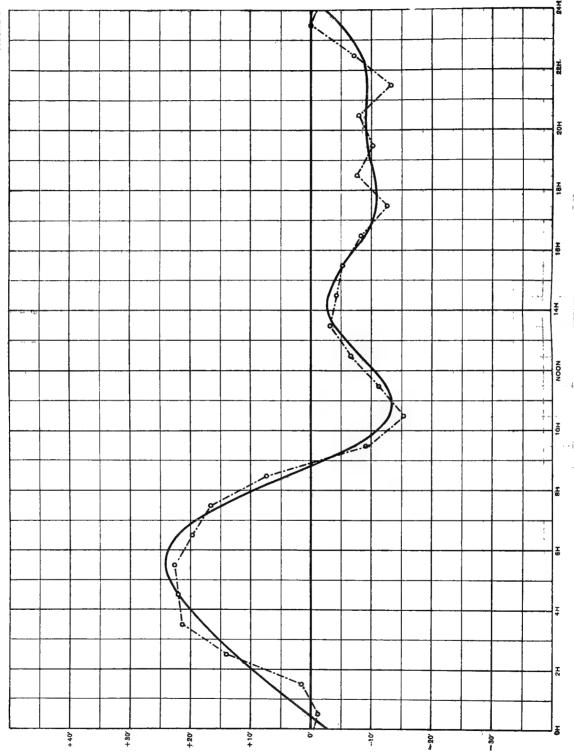
Tabulation of mean hourly magnetic declinations at Teplitz Bay
Four weeks, November 29 to December 26, 1903—Continued
22° plus tabular quantity, east

h 12.5	h 13.5	h 14.5	h 15.5	h 16.5	<i>ḥ</i> 17.5	h 18.5	h 19.5	h 20.5	h 21.5	h 22.5	h 23.5
	Tue	sday			Thu	sday			Fri	day	
	1, 8,	i5, 22			3, 10,	17, 24	1		4, 11,	18, 25	
,	,	,	,	,	,	/	/	,	,	/	,
27.1	18.5	32.9	41.0	35.2	30.8	31.4	26.3	18,6	49.6	14.6	80.7
36.1	31.8	43.5	62.2	32.7	31.9	33.5	34.6	33-4	34.9	33.2	37.1
41.0	39.2	39.8	37.3	38.5	39.1	38.9	38.4	33.7	28.2	30.6	39.6
34.5	34.1	36.9	34.1	37.3	36.8	37.6	37.4				
					Wedr	iesday					
					2, 9,	16, 23					
44.7	44.5	68.4	54.1	30.2	48.7	32.5	23.0	23.3	25.2	36.7	32.3
30.8	35.8	30.2	33.1	43.9	43.5	44.8	41.0	37.8	38.2	45.2	46.3
36.4	36.0	33.2	40.8	39.0	38,6	38.5	38.5	35.6	54.6	40.6	42.0
36.9	30.1	30.8	31.4	35-9	40.2	36.3	37.7	36,2	37.5	91.5	88.4
35.9	33.8	39.5	41.8	36.6	38.7	36.7	34.6	31.2	38.3	41.8	52.3

Mean value for the whole period, 22° 45.'9 E.



DIURNAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY FOR THE PERIOD NOVEMBER 29, 1908, TO DECEMBER 26, 1908 (Observed mean values shown by circles joined by broken line; computed values shown by the continuous curve. Increasing of ordinates up denote increasing east declination.)



DIURNAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY FOR THE PERIOD
DECÉMBER 27, 1908, TO JANUARY 28, 904
(Observed mean values shown by circles-jeined-by-broken lines-computed-values-shown by che continutes up denote increasing east declination.)

Tabulation of mean hourly magnetic declinations at Teplitz Bay
Four weeks, December 27, 1903, to January 23, 1904
22° plus tabular quantity, east

<i>h</i> 0.5	h 1.5	h 2.5	h 3.5	h 4.5	h 5.5	h 6.5	<i>h</i> 7∙5	h 8.5	h 9.5	h 10.5	h 11.5
	Su	nday			Su	nday			Mot	ıday	
	<b>2</b> 7, 3,	10, 17			27, 3,	10, 17			28, 4,	11, 18	
,	′	<b>'</b>	,	,	,	1 / 1	,	,	′	,	,
• • • •	••••		• • • •		• • • • •		••••	• • • • •		••••	
66.2	66.6	66.4	75.2	73-5	101.0	80.7	77.9	44.7	40.6	49.6	43.2
41.7	32.8	110.4	142.1	143.1	123.4	109.1	90.9	105.2	66.6	43.6	36.6
50.5	70.9	596	49.4	48.7	51.8	54.6	49.8	38.7	38.4	38.6	40.0
					Wed	nesday					
					30, 6	, 13, 20					
39.2	40.3	44.5	44.2	34.8	36.5	41.8	67.9	53.4	08.0	01.3	31.8
34-4	37.6	42.7	59.6	70.0	76.0	76.9	58.3	35⋅3	29.6	18.0	27.7
48.7	51.1	64.1	67.1	71.8	55.9	62.9	60.3	64.7	43.8	30.5	31.5
38.3	38 4	38.9	38.2	39.1	38.9	38.3	37.2	36.2	36.3	37. r	37.1
45.6	48.2	60.9	68.0	68.7	69 I	66.3	63.2	54.0	37.6	31.2	35.4

Tabulation of mean hourly magnetic declinations at Teplitz Bay Four weeks, December 27, 1903, to January 23, 1904—Continued 22° plus tabular quantity, east

	i	1	1	1		1					
h 12.5	h 13.5	h 14.5	h 15.5	h 16.5	h 17.5	h 18.5	h 19.5	h 20.5	h 21.5	h 22.5	h 23.5
	Tu	esday			Thu	rsday			Fri	day	
	29, 5	, 12, 19	1		31, 7	, 14, 21			1, 8,	15, 22	
,	,	,	/	,	,	/	,	′	,	/	,
31.7	32.1	31.8	31.4	34.96	25 5 <i>b</i>	50.5 <i>b</i>	46.9 <i>b</i>	77.0a	53.6a	29. I <i>a</i>	61.4 <i>a</i>
31.9	54.6	59.3	37.0	44.0	39.1	40.0	41.3	39.9	38.5	38 7	42.4
30. I	32.5	31.7	44.5	37-3	36.7	36.9	35.8	29.9	27.2	39.2	31.2
48.3	46.6	45.3	44.8	37.9	34.6	38.6	37.1	34 20	32. I <i>c</i>	58.5c	55.70
					Wed	nesday					
					30, 6	, 13, 20					
66.0	77 3	76.0	82.9	62.0	38.5	37.6	33-3	29.1	28.8	33-3	34.5
45-4	40.0	34-3	30.1	30.3	37.4	43.8	34.2	28. 1	21.3	45-3	24.6
29.3	29. <b>9</b>	26.5	28.2	28.7	31.0	34.3	42.9	49.0	3 <b>9</b> .0	43 2	86.1
37.2	34.2	32.6	32.0	31.0	29.5	30.1	19.1	22.9	24.6	29.2	37.1
40.0	43.4	42.2	41.4	38.3	34.0	39.0	36.3	38.8	33.1	39.6	46.6

a Thursday, December 31, 1903

## Tabulation of mean hourly magnetic declinations at Teplitz Bay

Four weeks, January 24 to February 20, 1904

22° plus tabular quantity, east

h 0.5	h 1.5	h 2.5	<i>h</i> 3·5	h 4.5	h 5·5	h 6.5	h 7.5	<i>h</i> 8.5	h 9·5	h 10.5	h 11.5
	Su	nday			Sun	day			Mo	nday	
	24, 3	1, 7, 14			24, 31	, 7, 14			25, I	, 8, 15	
,	1	, ,	,	,	,	/	,	,	,	1 1	
46.2	49.3	50.3	51.6	58.0	57.1	50.3	41.0	38.5	37.8	35.0	31.1
39.1	102.5	121.5	123.0	66.6	62.8	65.6	48.2	37.9	36. <b>0</b>	27.5	29.5
86,8	72.4	60.2	55.2	56.4	73-4	64.8	64.5	71.3	46.2	33.0	22.2
52,1	41.2	43.6	45-3	62.5	76.4	79.8	57.0	91.0	56.4	33.5	36.0
					Wed	nesday					
					27, 3,	10, 17					
41.7	42.7	42.7	42.1	44.2	44.2	45.0	46.7	43.7	37.5	35. I	28.6
83.8	61.0	67.4	57-5	80.8	65.8	52.6	35-4	36.6	34.7	35.5	35.2
43.7	47.9	49.4	58.7	71.3	72.1	66.9	72.5	52.1	44.4	32.8	31.8
55.4	53.1	72.0	56.2	106.0	49.8	96.0	44.8	64.0	34.7	33.3	<b>37.1</b>
56.1	58.8	63.4	61.2	68.2	62.7	65.1	51.6	54.4	41.0	33.2	31.4

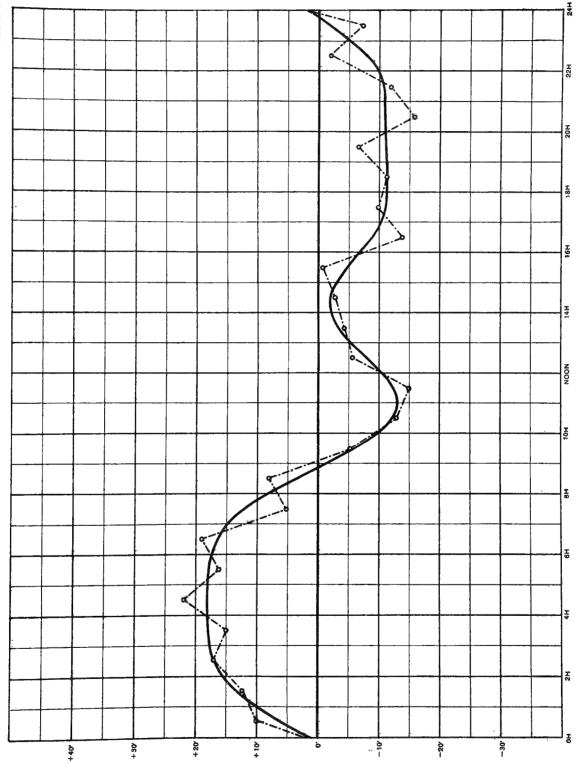
#### Tabulation of mean hourly magnetic declinations at Teplitz Bay

Four weeks, January 24 to February 20, 1904-Continued

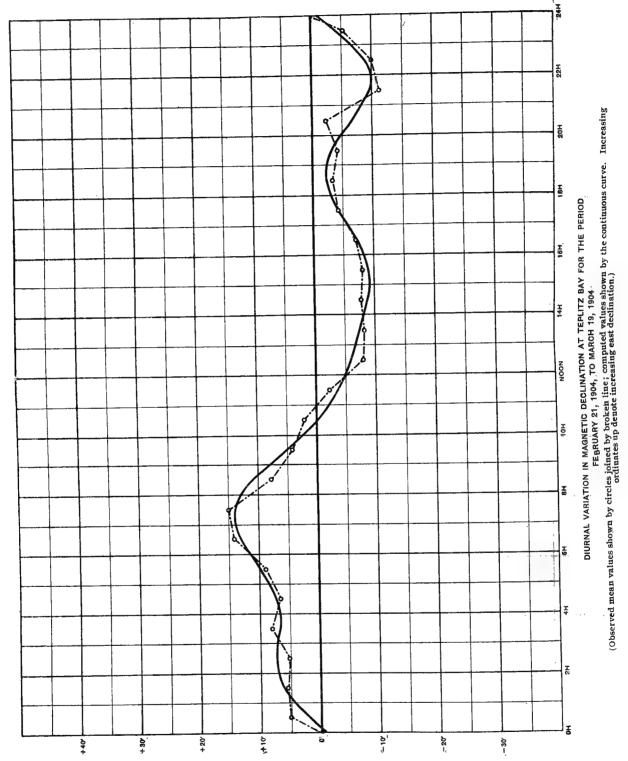
22° plus tabular quantity, east

h 12.5	h 13.5	h 14.5	h 15.5	h 16.5	h 17.5	h 18.5	h 19.5	h 20.5	h 21.5	h 22.5	h 23.5	
	Tue	esday			Thu	rsday			Fri	day		
	26, 2	, 9, 16			28, 4,	11, 18			29, 5,	Friday  29, 5, 12, 19  / 40.8   36.6  19.9   59.4  45.1   41.9  37.1   38.1		
,	,		,	,	,	,	, ,	,	,		,	
101,6	104.5	100.1	102.9	33.2	23.7	10.7	11.5	41.8	40.8	36.6	37.3	
52.7	62.4	59.5	46.2	34.2	33-4	32.8	30.8	14.8	19.9	59.4	40.5	
12.2	22.3	33.0	56.o	35.9	38.7	35-5	83.9	43.6	45.1	41.9	37.8	
31.3	28.5	19.4	39.1	34.2	40.6	41.6	36.0	36.1	37.1	38.1	38.1	
					Wed	lnesday						
					27, 3	3, 10, 17						
32.2	28.9	28.6	30.7	32.4	34-4	36.6	35.2	32.4	31.2	32.3	36.1	
37.2	35.4	35.2	34.0	35.0	34.9	33.1	48.5	31.3	39.0	51.6	36. <b>6</b>	
34.8	30.5	46.6	23.7	26.0	38.0	42.5	39.3	30.1	24.4	48.9	50.0	
25.4	23.4	26.8	33.9	29.4	48.0	46.9	33.8	15.0	38.7	44.3	35.4	
40.9	42.0	43.6	45.8	32.5	36.5	35.0	39.9	30.6	34-5	44.1	39.0	

Mean value for the whole period, 22° 46.'3 E.



DIURNAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY FOR THE PERIOD
JANUARY 24, 1904, TO FEBRUARY 20, 1904
(Observed mean values shown by circles joined by broken line; computed values shown by the continuous curve. Increasing ordinates up denote increasing east declination.)



# Tabulation of mean hourly magnetic declinations at Teplitz Bay Four weeks, February 21 to March 19, 1904

22° plus tabular quantity, east

<i>h</i> 0.5	h 1.5	h 2,5	h 3·5	h 4.5	h 5•5	h 6.5	h 7·5	h 8.5	h 9.5	h 10.5	ћ 11.5
	Su	ıday			Sur	ıday			Mor	ıday	
	21, 28	3, 6, 13			21, 28	3, 6, 13			22, 29	, 7, 14	
,	′	′ 1	, ,	,	/		,	,	,	, ,	. /
48.8	52.3	50.9	54-5	50.9	53.8	51.1	50.4	46.8	45.9	45.1	44.3
44.I	41.3	42.5	42.6	43.8	44.0	45.1	43.7	49.5	46.0	45.7	42.6
••••	• • • •	****		· • • •							
40.7	54 5	51.4	54.6	52.5	58.1	67.1	59.6	53.0	49.6	43.8	41.7
					Wed	nesday					
					24, 2	, 9, 16					
47-9	46.5	46.8	54.4	47.9	49.6	74.6	91.5	50.7	37.1	37.8	30.0
56.o	46.6	45.1	46.2	46. 1	47.8	45 8	44.2	45.6	47-5	44.7	35.7
44-4	43.9	47.8	47-4	48.1	48.8						
45.1	43.7	43.7	46.1	46.8	49.8	50.8	50.3	49-4	48.5	45 2	40.6
46.7	47.0	46.9	49.4	48.o	50.3	55 8	56,6	49.2	45.8	43.7	39.2

Tabulation of mean hourly magnetic declinations at Teplitz Bay

Four weeks, February 21 to March 19, 1904—Continued

22° plus tabular quantity, east

				P	ius tabui	ar quanti	.y, cast				
h 12.5	h 13 5	h 14.5	h 15.5	h 16.5	h 17.5	h 18.5	h 19.5	h 20.5	h 21.5	h 22.5	h 23.5
	Tu	esday			Thu	rsday			Fri	day	-
	23, 1	, 8, 15			25, 3,	10, 17			26, 4,	11, 18	
,	,		,	,	,		. ,	,	1	1 / 1	,
22.5	16.6	28.6	24.7	36.0	42.2	41.0	40 7	33-5	32.3	39-5	42.2
42.5	44.2	46.o	48.2	39.7	41.7	40.2	32.5	63.4	35.2	32 I	33-4
40.0	38.4	29. I	33.5	39 5	37.6	39.0	53 O	12.9	36.4	31 7	38. I
40.3	37.2	36.1	38 o	38.2	37.3	38.7	39.7	35-4	31.5	25.8.	32.4
					Wedı	iesday.					
					24, 2	, 9, 16					
27.3	35.1	35.2	36.4	36.4	37.6	39.4	38.1	37.0	22.7	23.4	38.1.
27.4	29.4	34.2	28,8	30.3	36.4	36.1	27.4	53.4	29.8	35.5	31.0
		•••:			••••	. 4		• • •	••••	••••	• • • •
36.2	31.5	27.8	25.2	22.0	28.9	32.4	30.1	38.2	24.1	33-5	38.4
33.7	33.2	33.9	33 5	34.6	37.4	38.1	37.3	39.1	30.3	31 <sub>,</sub> 6	36.2

Mean value for the whole period, 22° 41.'6 E.

# Tabulation of mean hourly magnetic declinations at Teplitz Bay Four weeks, March 20 to April 16, 1904

22° plus tabular quantity, east

h 0.5	h 1.5	h 2.5	<i>h</i> 3·5	h 4·5	h 5.5	h 6.5	<i>h</i> 7∙5	h 8.5	<i>h</i> 9∙5	h 10.5	h 11.5
	Su	nđay			Su	nday			Mo	nday	
	20, 2	7, 3, 10			20, 2	7, 3, 10			21, 28	3, 4, 11	
,	,		,	,	,	1 / 1	,	,	/	1 / 1	,
99.9	100.6	104.3	102.9	109.0	118.2	123.6	62.2		••••		
42. I	50.8	51.5	55.3	63.7	70.5	80 3	89. 1		••••		42.3
77.6	58.0	61.9	73.2	98.8	107.8	97.0	87.1	87.8	64.0	50.0	33.1
46.8	45.5	30.2	48.6	154.8	132.5	60.4	48.9	64.6	43.1	39 7	35.2
					Wed	nesday					
					23, 3	0, 6, 13					
41.5	41.4	40.7	41.6	43.2	47.2	57-5	55.0	50,0	48 5	46.0	43-3
30.1	36.3	50.8	67.7	55.0	69.5	52.3	43.0	39.5	35.1	33-3	26.8
33.7	59.8	62.1	67.5	78.3	107.3	100.4	61.2	49-5	46.4	42.0	36.7
24.6	23.3	37.0	63.0	69.8	43.0	73.8	98.4	76.6	56.5	43 6	33.0
49.5	52.0	54.8	65.0	84 1	87.0	80.7	68 т	61.3	48.9	42.4	35.8

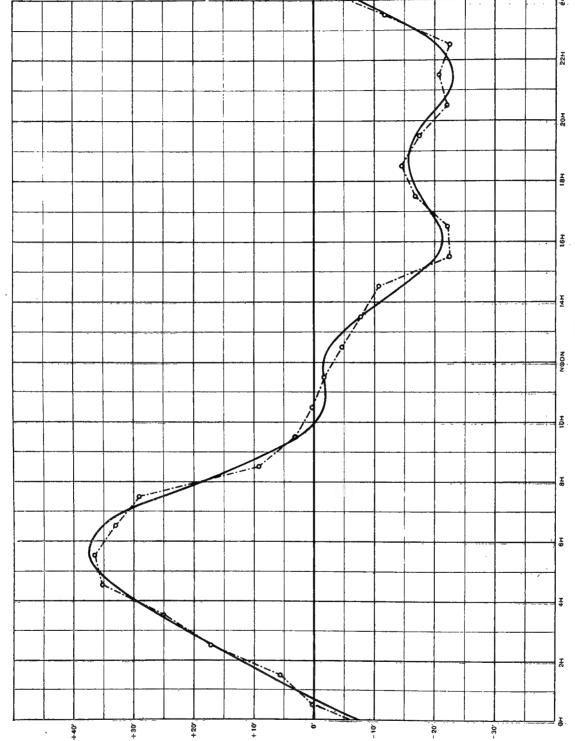
## Tabulation of mean hourly magnetic declinations at Teplitz Bay Four weeks, March 20 to April 16, 1904—Continued

22° plus tabular quantity, east

h 12.5	h 13.5	h 14.5	h 15.5	h 16.5	h 17.5	h 18.5	h 19.5	h 20.5	h 21.5	h 22.5	h 23.5
	Tue	sday			Thu	rsday	·		Fr	iday	
	22, 29	9, 5, 12			24, 3	1, 7, 14			25, 1	, 8, 15	
/	/	/	,	, 1	,	,	,	,	,	· /	,
46.5	44.3	39.6	40.1	34.5	32.9	37.1	35.2	20.8	19.8	27.1	37.0
27.6	21.6	15.4	17.9	29.3	28.3	29.3	29.3	12.4	13.3	02.9	74-3
35.1	32.2	32.2	32.1	00.4	01.5	11.6	—ro,8	10.2	01.7	o6.8	12.3
40.2	34.0	34.0	32.3	18,1	28,2	25.2	32.5	19.6	21.7	21.4	27 4
					Weds	nesday					
					23, 30	, 6, 13					
39.2	33.6	31.9	29.3	33.4	33.3	33.7	28.4	22.6	22.0	28.2	32.6
21.7	19.6	17.2	12.6	17.6	18.1	12.0	13.3	47.6	31.7	77-9	77.2
23.5	10.3	12 2	28.8	27.2	28.0	30.9	33.0	37.4	30.5	19.4	56.5
25.6	21.4	16.4	10.7	12.8	01,2	15.9	19.6	27.2	32.8	33.9	39.6
32.4	27.1	24.9	25.5	21.7	21.4	24.5	22.6	24.7	21.7	27.2	44.6

Mean value for the whole period, 22° 43.′7 E.

(Observed mean values shown by circles joined by broken line; computed values shown by the continuous curve. Increasing one of ordinates up denote increasing east declination.) DIURNAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY FOR THE PERIOD MARCH 20, 1904, TO APRIL 16, 1904



DIURNAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY FOR THE PERIOD

APRIL 17, 1964, TO MAY 14, 1904

(Observed mean values shown by circles joined by broken line; komputed values shown, by the continuous curve. Increasing ordinates up denote increasing east declination.)

# Tabulation of mean hourly magnetic declinations at Teplits Bay Four weeks, April 17 to May 14, 1904

20° plus tabular quantity, east

h 05	h 1.5	h 2.5	<i>h</i> 3⋅5	h 4.5	h 5.5	h 6.5	h 8.7.5	h 8.5	<i>h</i> 9∙5	h 10.5	h 11 5
	Su	nday			Sur	ıday			Mon	day	
	17, 2	4, 1, 8			17, 2	4, 1, 8			18, 25	, 2, 9	
,	/	1 / 1	,	,	1	1	, ,	,	,	1 /	,
40.6	38.8	38.2	47.9	<b>6</b> 8.8	72.1	64.7	54.6	43.9	19.5	31.0	29.0
25.8	19.9	27.0	39.9	64. 1	61.9	61.7	61.2	47.8	37.1	35.2	32.9
30.3	35.2	55⋅5	76.6	99.9	108.2	127.2	137.2	26.7	27.2	22.7	35.2
24.3	21.4	38.6	61.2	89.0	95.9	79.1	63.9	<b>5</b> 0.5	47.1	43.4	38.4
					Wedn	esday					
					20, 27	, 4, 11					
13.1	33 8	61.8	49 2	48.9	54.2	54.0	53.3	51.9	49.3	47.4	44.4
87.5	99.3	104.3	93⋅3	65.8	59.7	57.2	57.8	54.9	50.1	43.1	39. I
36.6	52.8	54.5	76.9	75.2	69.3	61.7	51.9	46.9	43.6	38 5	32.6
41.1	41.9	54.6	52.7	67.3	68.8	56.5	50.0	46.8	46.7	38.8	32. I
37.4	42.9	54-3	62.2	72.4	73.8	70.3	66.2	46.2	40.1	37.5	35.5

## Tabulation of mean hourly magnetic declinations at Teplitz Bay Four weeks, April 17 to May 14, 1904—Continued

22° plus tabular quantity, east

							77				
h 12.5	h 13.5	h 14.5	h 15.5	h 16.5	h 17.5	h 18.5	h 19.5	h 20.5	h 21.5	h 22.5	h 23·5
	Tue	esday			Thu	rsday			Frie	lay	
	19, 20	5, 3, 10			21, 28	5, 5, 12			22, 29,	6, 13	
,	, ,	, ,	1 /	,	1	1 /	,	,	1 /	, ,	. ,
73-5	80.4	59-3	16.4	29.6	32.9	30.0	32.3	25.3	09.7	13.5	25.3
34.6	44.0	53.4	31.1	24.8	25.1	22.2	21.5	-02.8	-04.5	o8. r	20.1
13.1	05.9	15.1	-or.3	29.6	34.1	39 8	42.4	27.0	20.1	158	34-3
32.1	21.5	o8 5	15.0	-40.5	-22.3	<b>—16</b> 5	<b>—36.6</b>	-29.7	-11.4	—14.1	10.5
					Wedr	iesday					
					20, 27	, 4, II					
37.6	27.1	28.9	30.0	30.9	32.8	34.6	36.2	34.0	34.2	34.2	39 <b>9</b>
24.9	31.5	26.1	19.7	27.2	31.8	35.2	35.9	37.1	38.6	35.8	27.8
19.0	09.8	06.3	02.6	18.5	21.4	26.7	14.4	08.7	23.7	22.1	33.6
24.5	14.0	11.6	09.5	-00.3	06.5	08.4	12.5	20. I	19.9	17.2	11.4
32.4	29.3	26.2	14.7	15.0	20.4	22.6	19.8	15.0	16.3	14.6	25.4

Mean value for the whole period, 22° 37.'1 E.

Tabulation of mean hourly magnetic declinations at Teplits Bay
Four weeks, May 15 to June 11, 1904

22° plus tabular quantity, east

h 0.5	h 1.5	h 2.5	<i>h</i> 3·5	<i>h</i> 4·5	<i>h</i> 5⋅5	h 6.5	<i>h</i> 7∙5	h 8.5	h 9.5	h 10.5	h 11.5
	Sur	ıday			Sur	ıday			Mor	ıday	
	15, 22	29, 5			15, 22	, 29, 5			16, 23	, 30, 6	
,	′ ′	,	,	,	,		,	,	′	/	′
26.3	36.1	51.7	65.9	79.9	130,3	123.2	53.4	52.8	49.3	47.6	43.6
21.6	62.2	73.5	63.9	55-5	49.6	48.2	<b>46.</b> 0	50.4	25.7	22.0	19.2
39-3	63.7	84,6	101.5	118.5	88.0	66.2	59. 1	48.8	47.0	38.9	35.7
33.0	57.2	51.8	70.2	55-7	82.6	94.3	71.5	<b>48.</b> 8	52.4	38.8	44.1
					Wedı	nesday					
					18, 2	25, 1, 8					
31.3	52.7	79.9	90.0	109.2	69.4	61.7	60.4	54.7	49.5	48.4	34.0
23.2	46.4	51.5	50.9	53.0	52.5	58.8	49.1	53-4	47.0	43.7	31.7
<b>3</b> 3.9	55.6	63.9	92.7	113.3	102.0	96.0	66.2	5 <b>9</b> .0	54 1	51.7	44.2
29.8	36.3	40.4	59.2	80,9	95. I	80.9	65.4	55-4	54.6	49.0	.40.5
29 8	51.3	62,2	74.3	83.2	-83.7	78.7	58.9	52.9	47.4	42.5	36,6

Tabulation of mean hourly magnetic declinations at Teplitz Bay

#### Four weeks, May 15 to June 11, 1904-Continued

22° plus tabular quantity, east

h 12.5	h 13.5	h 14.5	h 15.5	h 16.5	h 17.5	h 18.5	h 19.5	h 20.5	h 21.5	h 22.5	23.5		
	Tue	esday			Thu	rsday	-		Fri	day			
	17, 24	l, 3 <sup>1</sup> , 7			19, 2	6, 2, 9		20, 27, 3, 10					
,		/ 1	,	,	/	/	,	,	,	. /			
67.9	46.5	44.8	31.1	-o <sub>5</sub> .9	03.5	<b>—</b> 02.3	05.1	—ı1.6	09 9	23.9	33.0		
74.7	55.1	32.4	8.10	16.6	13.3	17.7	06.8	13.6	15.8	-04.6	-20.4		
32.9	18.6	14.9	07.5	27.7	24.6	21.8	25.0	15.8	24.0	28.7	33.0		
47.2	89.4	48.4	09.0	23.6	22.4	22.7	20.7	24.3	28.8	19.6	19.6		
					Wed	nesday							
					18, 2	25, 1, 8							
31.3	28.9	04.7	19.7	10.1	09.6	15.5	06.6	09.4	11.8	11.8	22.8		
25.5	21.3	15 9	13.0	15.4	06.4	03.7	09.9	08.4	00,2	04.5	30,8		
38.5	31.7	28,6	20.9	24.4	33.2	.24.0	14.6	22, I	20.5	27.7	24.5		
34.4	29.7	22.5	18.8	21.8	18.9	24.2	30.6	30.5	27.6	33.7	41.0		
44.0	40.2	26.5	£5.2	16.7	16.5	15.9	13.6	14.1	17.3	18.2	23:0		

Mean value for the whole period, 22° 40.1 E.

+10

+20

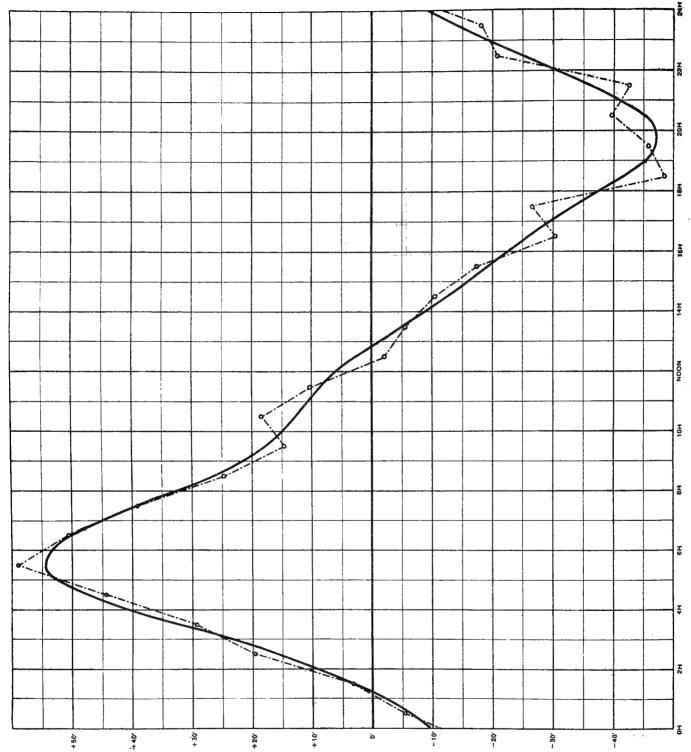
è96

+40

DIURNAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY FOR THE PERIOD
MAY 15, 1904, TO JUNE 11, 1904
(Observed mean values shown by circles joined by broken line: computed values shown by the continuous curve. Increasing ordinates up denote increasing east decknation.)

.30

-20



DIURNAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY FOR THE PERIOD
JUNE 12, 1904, TO JULY 1, 1904
(Observed mean values shown by circles joined by broken line; computed values shown by the continuous curve. Increasing ordinates and provided to provide the continuous curve.

## Tabulation of mean hourly magnetic declinations at Teplitz Bay Three weeks, ending series, June 12 to July 1, 1904

22° plus tabular quantity, east

h 0.5	h 1.5	h 2 5	h 3.5	<i>h</i> 4.5	h 5·5	h 6.5	h 7.5	h 8.5	<i>h</i> 9∙5	h 10 5	h 11 5
	Sur	ıday		<u> </u>	Sun	day			Mor	ıday	
	12, 1	19, 26	1		12, 1	9, 26			13, 2	0, 27	
, i	,	/	,	/	/	/ [	,	′	, .	/	,
33.7	49.1	57.2	62.8	73.1	86.0	72 2	67.0	58.6	47.4	44.0	40 5
31.6	25.7	32.7	48.8	71.1	92.4	82.3	72 7	47.9	52.4	53.9	46.5
-08.5	03.3	25.2	35.7	60.3	88.5	92 7	87.5	67.3	43 4	72.0	45.3
					W ed:	nesday					
*					15, 2	2, 29					
54-7	57.7	67.5	70.6	97.9	98.4	93.0	88,0	65.6	42.0	42 6	41.0
23.6	34. <b>2</b>	60.0	72.6	68.6	87.1	63.2	56.6	53.7	48. ī	46 9	39.9
26.5	40.7	67.4	77.4	87.4	93.6	92.8	54.6	48.1	48 o	42.8	39.6
26.9	35. I	51.7	61.3	76.4	91.0	82.7	71.1	56.9	46.9	50.4	42.1

Tabulation of mean hourly magnetic declinations at Teplitz Bay

Three weeks, ending series, June 12 to July 1, 1904—Continued

22° plus tabular quantity, east

						<b>_</b>				,	
h 12.5	h 135	h 14.5	h .15.5	h 16.5	h 17.5	h 18.5	h 195	h 20.5	h 21.5	h 22 5	h 23.5
	Tue	esday	1		Thu	rsday	<u>'</u>	,	Fr	iday	<u> </u>
	14,	21, 28			16, 2	23, 30			17,	24, I	
,	,	/	/	,	,	/	/	,	/	/	,
32.0	27.8	25.5	26 7	<u>-37.0</u>	13 9	<u>67.2</u>	<b>—</b> ‡6.7	15.7	15.0	16.3	30.1
36.5	32.0	28.5	—ot.7	—I7 4	-12.7	-15.4	20 4	20.2	20.8		29.4
27.7	28.4	21.6	15.2	17.6	21.8	03.8	06.2	<b>—</b> 45·7	-58.4	17.2	—og 3
					Wed	nesda y					
					15,	22, 29					
26.5	35.1	41.4	42.7	37.1	II.I	-61.5	68.o	—83.0	<del>-70.8</del>	17.2	0,11
28.6	24.2	12.5	03 9	10.7	26.6	22.9	21.8	22.2	17.8	20,0	23.0
28.8	13.3	00.5	01.6	oo. I	01.0	20.8	25.2	24.2	14.1	12.0	21.5
30.0	26.8	21.7	14.7	01.8	05.6	—16·1	-13.6	-07.7	-10.2	11.4	14.0

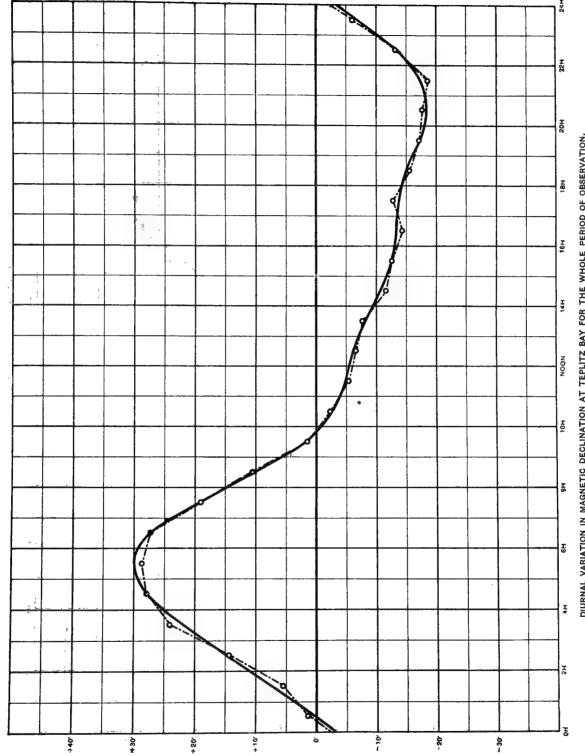
Mean value for the whole period, 22° 32.'I E.

Summary of mean hourly magnetic declinations at Teplitz Bay
From observations between October 4, 1903, and July 1, 1904
22° plus tabular quantity, east

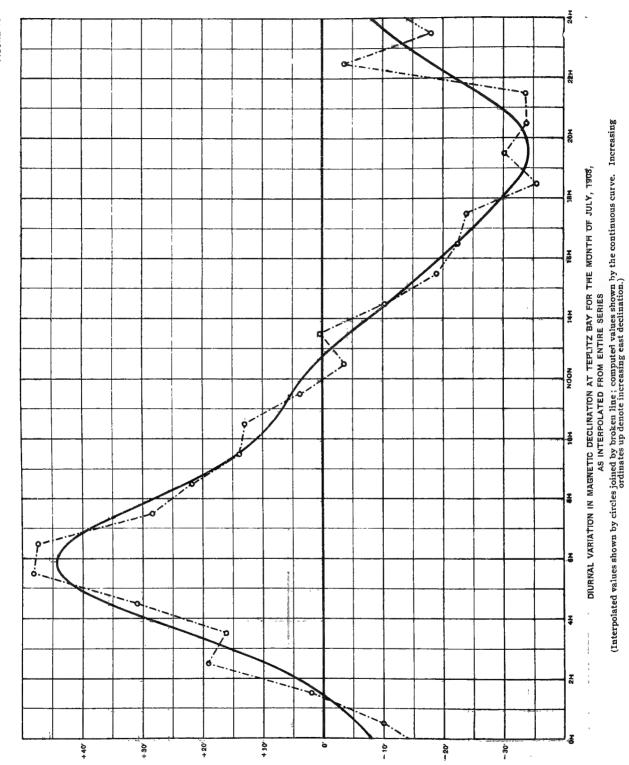
Period 1903–1904	ћ 0.5	h 1.5	h 2.5	<i>h</i> 3⋅5	<i>h</i> 4·5	<i>h</i> 5·5	h 6.5	h 7.5	h 8.5	<i>h</i> 9·5	h 10.5	h 11.5	h 12.5
					/		/	,	/	/ 25.8	32.8	, 29.3	/ 20.4
Oct. 4 to Oct. 30	35.2	37.4	52.3	54.9	53.8	54.5	55.8	51.6	47-3	35.8			29.4
Nov. 1 to Nov. 28	56.5	53-3	67.0	107.4	81.4	70.1	70.9	65.7	46.2	43.4	43.0	42.8	34.7
Nov. 29 to Dec. 26	49.2	48.4	49.5	56.7	61.7	66.5	66.7	62.8	55.8	44.7	41.2	37.7	35-9
Dec. 27 to Jan. 23	45.6	48.2	60.9	<b>6</b> 8.0	68.7	69.1	66.3	63.2	54.0	37.6	31.2	35-4	<b>40.</b> 0
Jan. 24 to Feb. 20	56. I	58.8	63.4	61.2	68.2	62.7	65,1	51.6	54-4	41.0	33.2	31.4	40.9
Feb. 21 to M'ch 19	46.7	47.0	46.9	49.4	48.o	50.3	55.8	56.6	49.2	45.8	43.7	39.2	33.7
M'ch 20 to Apr. 16	49.5	52.0	54.8	<b>6</b> 5 o	84. r	87.0	80.7	68. r	61.3	48.9	42.4	35.8	32.4
Apr. 17 to May 14	37-4	42.9	54.3	62,2	72.4	73.8	70 3	66.2	46.2	40.1	37 5	35 5	32.4
May 15 to June 11	29.8	51.3	62.2	74.3	83.2	83.7	78.7	58.9	52.9	47.4	42.5	36.6	44.0
June 12 to July 1	26.9	35.1	51.7	61.3	76.4	91.0	82.7	71.1	56.9	46.9	50.4	42.1	30.0
Oct. 4 to July 1	43.3	47-4	56.3	66.o	69.8	70.9	69.3	61.6	52.4	43.2	39.8	36.6	35⋅3

Summary of mean hourly magnetic declinations at Teplitz Bay
From observations between October 4, 1903, and July 1, 1905—Continued
22° plus tabular quantity, east

Period 1903–1904	h 13.5	h 14.5	h 15.5	h 16.5	h 17.5	h 18.5	h 19.5	h 20.5	h 21.5	h 22.5	h 23.5	Period means
-	,	,	,	,	,	,	,	,	,	,	,	,
Oct. 4 to Oct. 30	28.1	24.2	25.6	34 0	32.0	31.4	27.6	21.9	20.3	29.5	36.1	36.7
Nov. 1 to Nov. 28	37.9	33.2	35.4	48.3	48.4	36.7	31.2	34.8	32.4	31.4	43.0	49.8
Nov. 29 to Dec. 26	33.8	39-5	41.8	36.6	38.7	36.7	34.6	31.2	38.3	41.8	52.3	45.9
Dec. 27 to Jan. 23	43.4	42.2	41.4	38.3	34.0	39.0	36.3	38.8	33. I	39.6	46.6	46.7
Jan. 24 to Feb. 20	42.0	43.6	45.8	32.5	36.5	35.0	39.9	30,6	34.5	44. I	39.0	46.3
Feb. 21 to M'ch 19	33.2	33-9	33 5	34.6	37.4	38.1	37.3	39.1	30 3	31.6	36.2	41.6
M'ch 20 to Apr. 16	27.1	24.9	25.5	21.7	21.4	24.5	22.6	24.7	21.7	27.2	44.6	43.7
Apr. 17 to May 14	29.3	26,2	14.7	15.0	20 4	22,6	198	15.0	16.3	14.6	25.4	37.1
May 15 to June 11	40.2	26.5	15.2	16.7	16.5	15.9	13.6	14.1	17.3	18.2	23.0	40.1
June 12 to July 1	26.8	21.7	14.7	01.8	05.6	-16.1	-13.6	-07.7	-10.2	11.4	140	32.1
Oct. 4 to July 1	34.2	31.6	29.4	27.9	29.1	26.4	24.9	24.2	23.4	28.9	36.0	42.0



DIURNAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY FOR THE WHOLE PERIOD OF OBSERVATION,
OCTOBER 4, 1908, TO JULY 1, 1904
(Observed mean values shown by circles joined by broken line; computed values shown by the continuous curve. Increasing ordinates up denote increasing east declination.)



Unfortunately the observations at Teplitz Bay cover only nine months of the year. In order to arrive at an approximation of the diurnal variation in magnetic declination for the missing months, values have been interpolated, by formulæ based on Bessel's periodic function, dependent upon all of the observations made. The hourly means of all the mean observed hourly values have been obtained for all of the observations in each calendar month and these considered as representing the mean course of the declination for that month. This disregards the fact that the mean hourly declinations are not always evenly distributed during the month; the errors, however, arising from such an assumption are certainly less than those to be expected in the resulting interpolations.

The interpolation formulæ used have been developed by A. Bravais in his memoir "Sur la manière de représenter les variations diurnes ou annuelles des éléments météorologiques par des series trigonométriques".\* In the case in hand three values,  $t_0$ ,  $t_1$ , and  $t_2$ , are missing in each of the cycles of twelve equidistant ordinates,  $t_0$ ,  $t_1$ ,  $t_2$ ,  $t_3$ , . . . . . .  $t_{11}$ . For this case using the auxiliary values

Bravais deduces

$$x = t_0 + t_2 \text{ and } y = t_0 - t_2,$$

$$x = 6.929 \left(\frac{g_0 + g_2}{2}\right) + 3.694 g_1,$$

$$y = 1.75 \left(\frac{g_0 - g_2}{2}\right), \text{ and}$$

$$t_1 = 3.694 \left(\frac{g_0 + g_2}{2}\right) + 2.970 g_1.$$

In these equations the values of  $g_0$ ,  $g_1$ , and  $g_2$  are as follows:

$$g_0 = 0.533 \ t_{11} + 0.0383 \ (t_5 + t_7) + \frac{1}{7} (-t_3 - t_4 + t_6 - t_8 - t_9 + t_{10}),$$

$$g_1 = 0.0383 \ (t_6 + t_8) + \frac{1}{7} (t_8 - t_4 - t_5 + t_7 - t_9 - t_{10} + t_{11}), \text{ and}$$

$$g_2 = 0.533 \ t_8 + 0.0383 \ (t_7 + t_9) + \frac{1}{7} (t_4 - t_5 - t_6 + t_8 - t_{10}^* - t_{11}).$$

By the aid of these formulæ and the known hourly values of the magnetic declination for the nine months from October, 1903, to June, 1904, both monthly hourly and mean monthly values have been interpolated for the months of July, August, and September, 1903.

Inasmuch as these interpolations were to be carried out directly from the observed quantities and not from the hourly variations on the mean monthly values, all of the observed hourly declinations have been reduced to one epoch, namely, 1904.0, by means of the annual change in declination as determined on page 305. Thus the interpolated values all apply to the epoch 1904.0. The reduced observed monthly hourly and mean monthly declinations, as also the interpolated values obtained for the three missing months, are contained in the following tabulation. The interpolated quantities for the three months of July, August, and September are shown graphically in figures 16 to 18 in which the interpolations are indicated by circles connected by broken lines; the smooth curves show the computed values of the diurnal variation resulting from the discussion of the same by means of Bessel's periodic function.

<sup>\*</sup>Voyages de la Commission Scientifique du Nord en Scandinavie, en Laponie, au Spitzberg et aux Feröe, pendent les années 1838, 1839 et 1840, published by the French Government under direction of M. Paul Gaimard, President of the Commission. The memoir comprises chapter V of volume II on meteorology, pages 291 to 332.

Tabulation of monthly mean hourly magnetic declinations at Teplitz Bay

All values reduced to mean epoch 1904 o

22° 41' plus tabular quantity, east

Month	h 0.5	h 1.5	h 2.5	h 3·5	h 4.5	h 5⋅5	h 6.5	<i>h</i> 7⋅5	h 8.5	h 9.5	h 10.5	h 11.5	h 12.5
July*	1 '	-10.4	06.5	03.8	18.3	35-7	34.8	15.9	09.0	01.4	00.4	-08.9	-16.2
August*	-18.5	-11.9	05.6	-04.0	06.ი	23.4	27.4	10.0	07.1	-00.5	-01.5	-10.6	-20,0
September*	-09 I	-07.8	08.6	04.9	c6.7	16.6	21.5	10.1	05.8	-01.8	-03.0	-10.2	-18.2
October	-04.3	-02.I	12.8	15.4	14.3	15.1	16.3	12.1	07.8	-03.7	-06.7	-10.2	-10.1
November	15.0	12.6	24.9	60.6	39.1	32.0	31.2	27.8	05.4	02. I	01.6	01.5	-05.3
December	08.2	07.0	o8.5	15.8	18.0	196	22. I	20.2	17.0	01.2	-03.0	-02.9	-ož. I
January	03.9	13.4	25.0	30.7	27.0	26.6	23.5	15.7	09.6	00.0	-05.4	-06.9	03.2
February	15.9	10.1	12,2	11.1	23.0	18.7	24 5	16.8	13 6	00.5	-05.9	-07.6.	-11.5
March	07 5	09.7	11.9	15.2	15.5	21.2	25.7	15 1	05.0	03.3	00.1	-04·I	-06.8
April	00.5	04.1	09.6	17.1	38.o	36.6	28.1	22.I	16.4	02.6	-01.7	-07.8	-06.3
May	-13.4	02.0	16.7	27.3	39.3	37 5	32 O	19.6	04.1	-01.2	-05.6	-10.2	-o8. ī
June	-15.6	-04.3	07.5	21.3	34.4	47.4	41.0	25 6	11.7	04.9	04.8	-01.9	-10.9
October to March	07 7	08.4	15.9	24.8	22,8	22,2	23.9	18 o	09.7	00.6	-03.2	-05.0	-05.4
April to September	-13.1	-04.7	09.1	11.7	23.8	32 8	30.8	17.2	09.0	00.9	-01.1	-08.3	-13.3
Mean of year	-02.7	01.9	12.5	18.3	23.3	27.5	27.3	17.6	09 4	00.7	-02.2	-06.6	-09.4

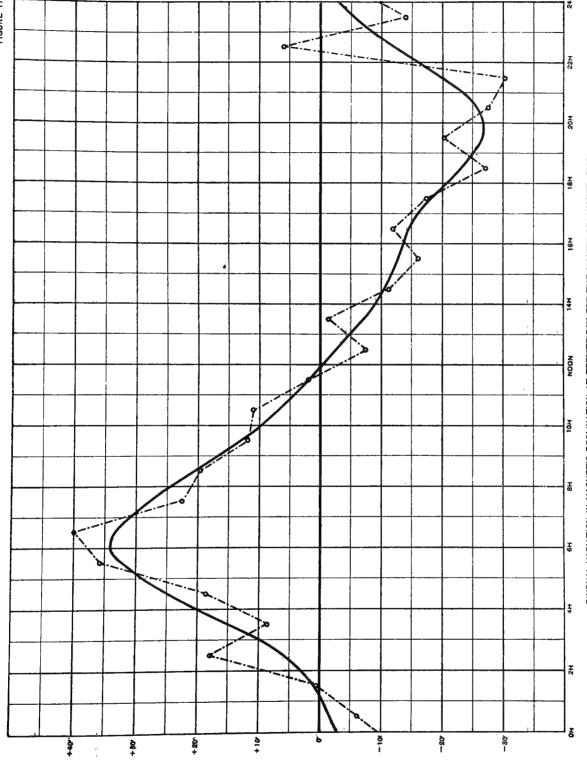
Tabulation of monthly mean hourly magnetic declinations at Teplitz Bay—Continued

All values reduced to mean epoch 1904.0

22° 41' plus tabular quantity, east

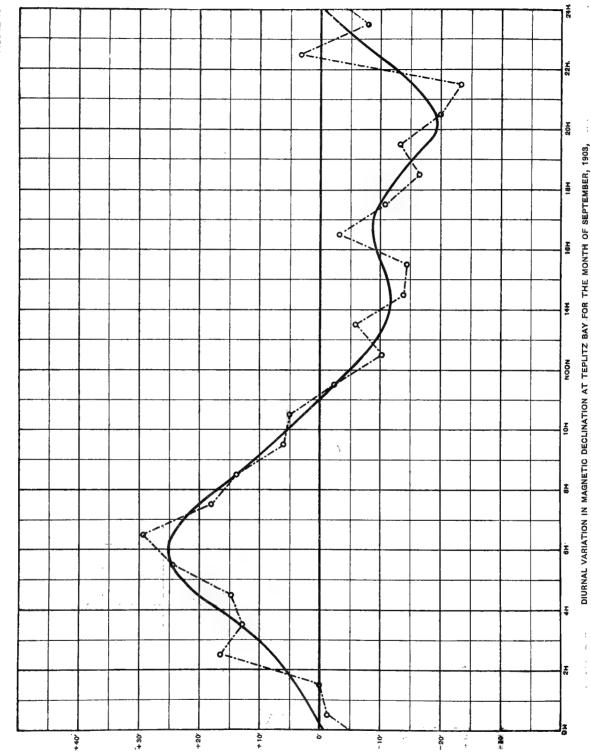
Month	h 13.5	h 14.5	h 15.5	h 16.5	h 17.5	h 18.5	h 19.5	h 20.5	h 21.5	h 22.5	h 23.5	Monthly means
		,	<i>,</i>	,	,	,	,	,	,	: ,	,	,
July*	-I2 2	-23.1	-31.4	-35.I	-36.4	-48.1	-42.8	-46.4	-46.2	- 16.2	-30.4	-12.6
August*	8.81	-23.9	- 28.5	- 24.5	-29.9	-39.6	-32.7	~ 40.2	-42.6	-06.4	- 26.4	-12.4
September*	-13.7	-21.7	-22.4	-11.1	-18.7	-24.4	-21.3	-27.9	-31.3	-04.7	-15.8	-07.9
October	-11.4	-15.3	-13.9	-05.5	-14.1	-11.7	- 14.7	-18.2	- 18.2	-09.4	-04.0	-03.2
November	-02.I	-06.8	-04.6	08.3	08.4	-03.3	-08.8	-05.2	-07.6	-08.6	03.0	09.2
December	-02.7	01.7	04.2	-OI.2	-01.9	-03.8	-06.1	-04.5	-01.6	-01.2	10.8	05.1
January	o5 I	03.5	02.5	-06.9	-08.9	-05.6	-07.5	-06.5	-c9.4	-00.9	02.5	05.6
February	→ IO. I	-06.4	-05.1	-08.5	-02.7	-02.8	02.0	-11.7	-09.5	01.5	-02. I	02.8
March	-09.2	-11.7	- 12.1	-10.9	-09.8	-09.3	- 10.4	-05.7	-137	-06.0	-02.5	00.8
April	-08.1	-10.4	- 18. 1	-21.8	- 20.5	- 17.5	-18.2	-20.9	-23.4	-25.4	-07.3	-01.3
May	- 19.2	- 26.7	-33.4	-38.4	-34.7	-32.2		-38.1	-32.5	-34.2	-24.3	-08.8
June	-09.7	- 18.8	-29 I	-33 5	-31.0	-44.7	-43.4	-39.7	-40.4	-26.5	- 24.1	-07.4
October to March	-05.1	-05.8	-04.8	-04.1	-04.8	-06.1	-07.6	-08.6	- 10.0	-04.1	01.3	03.4
April to September	-12.8	-20.8	-27.2	-27.4	-28.7	-34.4	-32.6	-35.5	-36.1	-19.0	-21.4	-08.4
Mean of year	-08.9	-13.3	- 16. o	-15.8	-16.7	20.2	- 20. I	-22.I	-23.0	-11.5	-10.0	-02.5

<sup>\*</sup>These are the months for which values are interpolated.



DIURNAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY FOR THE MONTH OF AUGUST, 1908;

AS INTERPOLATED FROM ENTIRE SERIES
(Interpolated values shown by circles joined by broken line; computed values shown by the continuous curve. Increasing ordinates up denote increasing east declination.)



DIURNAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY FOR THE MONTH OF SEPTEMBER, 1903, .... AS INTERPOLATED FROM ENTIRE SERIES

(Interpolated values shown by circles joined by broken line; computed values shown by the continuous curve. Increasing ordinates up denote increasing east declination.)

The analytical expressions representing the diurnal variation in magnetic declination for the four-week periods from October 4, 1903, to July 1, 1904, and for the interpolated months of July, August, and September have been deduced from Bessel's periodic function.\* This function is represented in the general case by the following formula:

$$D = A + B_1 \sin(\theta + C_1) + B_2 \sin(2\theta + C_2) + B_3 (3\theta + C_3) + B_4 (4\theta + C_4) + \dots + B_n (n\theta + C_n)$$

For a series of twenty-four equidistant observations,  $t_1$ ,  $t_2$ ,  $t_3$ ,  $t_4$ ,  $t_5$ , . . . . . .  $t_{23}$ ,  $t_{24}$ , in the cycle the numerical computations may be made directly from the following equations:

$$A = \frac{1}{24} (t_1 + t_2 + t_3 + t_4 + t_5 + \dots t_{24})$$

$$12a_1 = 0.966 (t_1 - t_{11} - t_{13} + t_{23}) + 0.866 (t_2 - t_{10} - t_{14} + t_{22}) + 0.707 (t_3 - t_9 - t_{15} + t_{21}) + 0.500 (t_4 - t_8 - t_{16} + t_{20}) + 0.259 (t_5 - t_7 - t_{17} + t_{19}) - t_{12} + t_{24}$$

$$12b_1 = 0.259 (t_1 + t_{11} - t_{13} - t_{23}) + 0.500 (t_2 + t_{10} - t_{14} - t_{22}) + 0.707 (t_3 + t_9 - t_{15} - t_{21}) + 0.866 (t_4 + t_8 - t_{16} - t_{20}) + 0.966 (t_5 + t_7 - t_{17} - t_{19}) + t_6 - t_{18}$$

$$12a_2 = 0.866 (t_1 - t_5 - t_7 + t_{11} + t_{13} - t_{17} - t_{19} + t_{23}) + 0.500 (t_2 - t_4 - t_8 + t_{10} + t_{14} - t_{16} - t_{20} + t_{22}) - t_6 + t_{12} - t_{18} + t_{24}$$

$$12b_2 = 0.500 (t_1 + t_5 - t_7 - t_{11} + t_{13} + t_{17} - t_{19} - t_{23}) + 0.866 (t_2 + t_4 - t_8 - t_{10} + t_{14} + t_{16} - t_{20} - t_{22}) + t_3 - t_9 + t_{15} - t_{21}$$

$$12a_3 = 0.707 (t_1 - t_3 - t_5 + t_7 + t_9 - t_{11} - t_{13} + t_{15} + t_{17} - t_{19} - t_{21} + t_{23}) - t_4 + t_8 - t_{12} + t_{16} - t_{20} + t_{24}$$

$$12b_3 = 0.707 (t_1 + t_3 - t_5 + t_7 + t_9 + t_{11} - t_{13} + t_{15} + t_{17} + t_{19} - t_{21} + t_{23}) + t_2 - t_6 + t_{10} - t_{14} + t_{18} - t_{22}$$

$$12a_4 = 0.500 (t_1 - t_2 - t_4 + t_5 + t_7 - t_8 - t_{10} + t_{11} + t_{13} - t_{14} - t_{16} + t_{17} + t_{19} - t_{20} - t_{22} + t_{23}) - t_3 + t_6 - t_9 + t_{13} - t_{15} + t_{18} - t_{21} + t_{24}$$

$$12b_4 = 0.866 (t_1 + t_2 - t_4 - t_5 + t_7 + t_8 - t_{10} - t_{15} + t_{15} + t_{17} + t_{19} + t_{19} + t_{19} + t_{20} - t_{22} - t_{23})$$

and other expressions of like character for terms of higher order. For most practical purposes the series is not in general improved by the addition of terms beyond the fourth. On the solution of these equations by substitution of the observed values the term-coefficients and angles may be determined by the following:

$$B_{1} = \sqrt{a_{1}^{2} + b_{1}^{2}} \qquad \tan C_{1} = a_{1}/b_{1}$$

$$B_{2} = \sqrt{a_{2}^{2} + b_{2}^{2}} \qquad \tan C_{2} = a_{2}/b_{2}$$

$$B_{3} = \sqrt{a_{3}^{2} + b_{3}^{2}} \qquad \tan C_{3} = a_{3}/b_{3}$$

$$B_{4} = \sqrt{a_{4}^{2} + b_{4}^{2}} \qquad \tan C_{4} = a_{4}/b_{4}$$

<sup>\*</sup>First published by Bessel in the Literary Gazette of Jena in 1814; also published in his paper in Astronomische Nachrichten, No. 136, May, 1828. See also Bravais' memoir referred to above and C. A. Schott in Appendix No. 8 of the Report of the Superintendent of the United States Coast and Geodetic Survey for 1890.

In the case of a cycle of twelve equidistant observations:

$$A = \frac{1}{12}(t_1 + t_2 + t_3 + t_4 + \dots t_{12})$$

$$6a_1 = 0.866(t_1 - t_5 - t_7 + t_{11}) + 0.500(t_2 - t_4 - t_8 + t_{10}) - t_6 + t_{12}$$

$$6b_1 = 0.500(t_1 + t_5 - t_7 - t_{11}) + 0.866(t_2 + t_4 - t_8 - t_{10}) + t_3 - t_9$$

$$6a_2 = 0.500(t_1 - t_2 - t_4 + t_5 + t_7 - t_8 - t_{10} + t_{11}) - t_3 + t_6 - t_9 + t_{12}$$

$$6b_2 = 0.866(t_1 + t_2 - t_4 - t_5 + t_7 + t_8 - t_{10} - t_{11})$$

$$6a_3 = -t_2 + t_4 - t_6 + t_8 - t_{10} + t_{12}$$

$$6b_3 = +t_1 - t_3 + t_5 - t_7 + t_9 - t_{11}$$

$$6a_4 = 0.500(-t_1 - t_2 - t_4 - t_5 - t_7 - t_8 - t_{10} - t_{11}) + t_3 + t_6 + t_9 + t_{12}$$

$$6b_4 = 0.866(t_7 - t_7 + t_7 - t_8 + t_{10} - t_{11})$$

On the evaluation of these equations the coefficients  $B_1$ ,  $B_2$ ,  $B_3$ , . . . .  $B_n$ , and the angles  $C_1$ ,  $C_2$ ,  $C_3$ , . . . .  $C_n$  are found as before.\*

The results of the discussions for the various periods from the observed and interpolated hourly declinations are as follows, the probable error of a single representation being indicated by the "plus or minus" quantity at the end of each formula:

FORMULÆ REPRESENTING DIURNAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY

October 4 to October 30, 1903:

$$D = 22^{\circ} 36.7 + 13.67 \sin (\theta + 2^{\circ} 31') + 6.98 \sin (2\theta + 282^{\circ} 25') + 1.33 \sin (3\theta + 16^{\circ} 46') + 1.55 \sin (4\theta + 62^{\circ} 47') \pm 0.37$$

November 1 to November 28, 1903:

$$D = 22^{\circ} 49.'8 + 19.'74 \sin (\theta + 11^{\circ} 44') + 14.'03 \sin (2\theta + 303^{\circ} 01') + 3.'91 \sin (3\theta + 285^{\circ} 42') + 3.'13 \sin (4\theta + 145^{\circ} 38') \pm 0.'94$$

November 29 to December 26, 1903:

$$D = 22^{\circ} 45.'9 + 13.'13 \sin (\theta + 6^{\circ} 09') + 4.'97 \sin (2\theta + 270^{\circ} 44') + 4.'50 \sin (3\theta + 103^{\circ} 12') + 2.'00 \sin (4\theta + 78^{\circ} 58') \pm 0.'24$$

December 27, 1903, to January 23, 1904:

$$D = 22^{\circ} 46.7 + 13.96 \sin (\theta + 9^{\circ} 40') + 8.60 \sin (2\theta + 295^{\circ} 59') + 3.97 \sin (3\theta + 159^{\circ} 26') + 2.01 \sin (4\theta + 330^{\circ} 00') \pm 0.35$$

January 24 to February 20, 1904:

$$D = 22^{\circ} 46.'3 + 13.'54 \sin (\theta + 15^{\circ} 04') + 7.'72 \sin (2\theta + 317^{\circ} 17') + 2.'19 \sin (3\theta + 126^{\circ} 14') + 2.'79 \sin (4\theta + 318^{\circ} 22') \pm 0.'48$$

February 21 to March 19, 1904:

$$D = 22^{\circ} 41.'6 + 9.'47 \sin (\theta + 357^{\circ} 48') + 3.'65 \sin (2\theta + 247^{\circ} 46') + 2.'38 \sin (3\theta + 4^{\circ} 04') + 2.'34 \sin (4\theta + 346^{\circ} 42') \pm 0.'24$$

<sup>\*</sup>These solutions are given by C. A. Schott in Appendix No. 8 of the Report of the Superintendent of the United States Coast and Geodetic Survey for 1890.

Property and

DIURNAL VARIATION IN MAGNETIC DECLINAȚION AT TEPLITZ BAY FOR THE YEAR JULY, 1903, TO JUNE, 1904
SHOWING THE SUMMER AND WINTER RANGES
(Mean observed values shown by circles joined by broken line; mean winter values shown by vertical crosses; mean summer values shown by inclined crosses; the respective computed values shown by inclined crosses; the respective computed values shown by continuous curves.)

March 20 to April 16, 1904:

$$D = 22^{\circ} 43.'7 + 27.'93 \sin (\theta + 0^{\circ} 26') + 7.'96 \sin (2\theta + 274^{\circ} 24') + 2.'67 \sin (3\theta + 149^{\circ} 03') + 3.'56 \sin (4\theta + 65^{\circ} 34') \pm 0.'39$$

April 17 to May 14, 1904:

$$D = 22^{\circ} 37.'1 + 25.'51 \sin (\theta + 353^{\circ} 22') + 8.'81 \sin (2\theta + 287^{\circ} 10') + 3.'37 \sin (3\theta + 224^{\circ} 52') + 3.'81 \sin (4\theta + 24^{\circ} 14') \pm 0.'27$$

May 15 to June 11, 1904:

$$D = 22^{\circ} 40.'1 + 30.'31 \sin (\theta + 350^{\circ} 15') + 9.'14 \sin (2\theta + 308^{\circ} 51') + 6.'64 \sin (3\theta + 223^{\circ} 42') + 1.'50 \sin (4\theta + 31^{\circ} 56') \pm 0.'39$$

June 12 to July 1, 1904:

$$D = 22^{\circ} 32.'1 + 41.'83 \sin (\theta + 341^{\circ} 19') + 8.'65 \sin (2\theta + 309^{\circ} 04') + 4.'57 \sin (3\theta + 156^{\circ} 34') + 3.'88 \sin (4\theta + 100^{\circ} 30') \pm 0.'53$$

For whole observational series, October 4, 1903, to July 1, 1904:

$$D = 22^{\circ} 42.'0 + 20.'52 \sin (\theta + 357^{\circ} 14') + 7.'69 \sin (2\theta + 294^{\circ} 16') + 1.'50 \sin (3\theta + 177^{\circ} 59') + 1.'51 \sin (4\theta + 47^{\circ} 52') \pm 0.'12$$

For the year, July 1, 1903, to June 30, 1904, from monthly grouping of observations and interpolations therefrom:

$$D = 22^{\circ} 38.'5 + 21.'11 \sin (\theta + 354^{\circ} 18') + 6.'90 \sin (2\theta + 291^{\circ} 26') + 1.'75 \sin (3\theta + 156^{\circ} 48') + 1.'62 \sin (4\theta + 58^{\circ} 51') \pm 0.'20$$

Month of July, 1903 (interpolated values):

$$D = 22^{\circ} 24.'9 + 32.'62 \sin (\theta + 341^{\circ} 59') + 5.'95 \sin (2\theta + 291^{\circ} 36') + 4.'79 \sin (3\theta + 154^{\circ} 30') + 2.'73 \sin (4\theta + 84^{\circ} 45') \pm 0.'75$$

Month of August, 1903 (interpolated values):

$$D = 22^{\circ} 25.'8 + 24.'66 \sin (\theta + 343^{\circ} 19') + 4.'26 \sin (2\theta + 273^{\circ} 14') + 3.'59 \sin (3\theta + 116^{\circ} 51') + 2.'63 \sin (4\theta + 86^{\circ} 04') \pm 0.'90$$

Month of September, 1903 (interpolated values):

$$D = 22^{\circ} 30.'9 + 17.'95 \sin (\theta + 351^{\circ} 52') + 5.'09 \sin (2\theta + 272^{\circ} 49') + 2.'25 \sin (3\theta + 72^{\circ} 56') + 2.'28 \sin (4\theta + 90^{\circ} 30') \pm 0.'66$$

In all of these expressions the angle  $\theta$  counts from 15° as 0.5 hour A. M. local mean time. The formulæ have been carried to terms of the fourth order only, as little or no improvement results from the further extension of the function. Graphical representations to scale of these formulæ, together with the quantities from which they are deduced, are given by figures 5 to 19.

A comparison of the diurnal variations—represented by the four sine terms of the analytical expressions—with the observed quantities at the mean local half hours, is given by the following tabulation wherein the observed, interpolated, and computed values on mean of day are indicated by the letters O, I, and C respectively. As a criterion of the accuracy of the formulæ for diurnal variation, a column showing differences of observed and computed variations is added (O-C) or (I-C). In these tabulations a plus sign indicates the variation to be to the east of mean declination for day, while a minus sign indicates the variation to be to the west of mean declination for day. The extreme values on the half hours for each period, both observed and computed, are indicated by bold-face type.

Tabulation of observed and computed diurnal variation of magnetic declination at Teplitz Bay

														- £	
Local mean time	Mor	ith of J	uly	Mont	h of Au	gust	Month	of Sept	ember		tober 4 ctober 3			ember : vember	
Local	I	С	I—C	I	С	I—C	I	С	I—C	0	С	0—С	0	C	0—C
h	,	,	,	,	,	,	,	,	,	,	,	,	,	,	,
0.5	—10.o	<b>— 5.4</b>	<b>— 4.6</b>	<b>—</b> 6.1	— I.7	- 4.4	— I.2	+ 1.0	<b>— 2.2</b>	- 1.5	+ 14	- 2.9	+ 6.7	<del>_</del> o.8	+ 7.5
1.5	+ 2.2	+ 0.4	+ 1.8	+ 0.5	+ 1.0	- 0.5	+ o.1	+ 3.8	— 3·7	+ 0.7	+ 6.4	- 5.7	+ 3.5	+11.8	- 8.3
2.5	+19.1	+ 9.8	+ 9.3	+18.o	+ 5.9	+12.1	+16.5	+ 7.7	+ 8.8	+15.6	+10.8	+ 4.8	+17.2	+25.8	- 8.6
3.5	+16.4	+22.8	<b>—</b> 6.4	+ 8.4	+14.6	- 6.2	+12.8	+13.6	— о.8	+18.2	+15.2	+ 3.0	<b>+57.6</b>	+36.4	+21.2
4.5	+30.9	+36.0	- 5.1	+18.4	+24.8	<b>—</b> 6.4	+14.6	+20.2	_ 5.6	+17.1	+18.9	— т.8	+31.6	+38.8	<b>— 7.2</b>
5.5	+ <b>48.3</b>	<b>+43.6</b>	+ 4.7	+35.8	+32.1	+ 3.7	+24.5	<b>+24</b> .5	0.0	+17.8	<b>+20.6</b>	<b>— 2.8</b>	+20.3	+31.8	-11.5
6.5	+47.4	+42.4	+ 5.0	+39.8	+33.1	+ 6.7	<b>+29.4</b>	+24.3	+ 5.1	+19.1	+18.9	+ 0.2	+21.1	+19.2	+ 1.9
7.5	+28.5	+33.7	- 5.2	+22.4	+28.o	<b>—</b> 5.6	+18.o	+20.0	2.0	+14.9	+13.9	+ 1.0	+15.9	+ 7.1	+ 8.8
8.5	+21.6	+22.6	<b>— 1.</b> 0	+19.5	+20.0	- o.5	+13.7	+13.8	— о. 1	+10.6	+ 7.5	+ 3.1	— з.6	— o.5	— 3.I
9.5	+14.0	+13.7	+ o.3	+11.9	+12.5	— <b>o</b> .6	+ 6.1	+ 7.9	<u> </u>	0.9	+ 1.6	<b>— 2.5</b>	- 6.4	<b>— 3</b> .9	- 2.5
10.5	+13.0	+ 8.5	+ 4.5	+10.9	+ 6.9	+ 4.0	+ 4.9	+ 2.6	+ 2.3	3.9	<b>— 3.</b> 0	— o.9	6.8	— 6.4	— o.4
11.5	+ 3.7	+ 5.2	<b>— 1.5</b>	+ 1.8	+ 2.2	- 0.4	- 2.3	- 2.4	+ o.1	<b>— 7.4</b>	- 6.4	— т.о	<b>—</b> 7.0	-1o.2	+ 3.2
12.5	<b>—</b> 3.6	+ 1.2	<b>– 4.</b> 8	<b>—</b> 7.6	_ 2.5	_ 5.1	—10.3	<b>-</b> 7⋅3	— з.о	<b>−</b> 7.3	- 9.1	+ 1.8	-15.1	-14.7	<b>- 0.4</b>
13.5	+ 0.4	<b>—</b> 4⋅5	+ 4.9	<u> </u>	<u> </u>	+ 5.7	<b>—</b> 5.8	—10.8	+ 5.0	·⊶ 8.6	-to.8	+ 2.2	-11.9	—16.6	+ 4.7
14 5	<b>—10.5</b>	—1 <b>o</b> .8	+ 0.3	-11.5	10.7	o.8	-13.8	—ıı.8	<b>— 2.0</b>	—12.5	—10.6	- 1.9	<u>-16.6</u>	14.o	_ 2.6
15.5	-18.8	<b>—16.7</b>	<b>- 2.</b> I	—16.1	<b>—12.9</b>	_ 3.2	-14.5	—10.3	4.2	11.1	<u>.</u> 8.3	<b>— 2.8</b>	14.4	- 8.7	- 5.7
16.5	22.5	<b>-22.</b> 0	_ o.5	-12.1	-14.9	+ 2.8	— 3.2	<b>— 8.8</b>	+ 5.6	- 2.7	- 5.4	+ 2.7	— I.5	- 4 5	+ 3.0
17.5	<b>—23.</b> 8	<b>—27.</b> I	+ 3.3	<b>—17.5</b>	-18.4	+ 0.9	-10.8	<b>— 9.8</b>	I.O	— 4·7	<b>— 4.2</b>	— o.5	<b>— 1.4</b>	<b>- 4</b> ·7	+ 3.3
18.5	<b>_35.5</b>	31.8	- 3.7	<b>—27.2</b>	<b>—23.</b> 0	_ 4.2	<b>—16.</b> 5	-13.5	— 3.0	- 5.3	6.o	+ o.7	—13.1	<b>- 9.2</b>	- 3.9
19.5	<b>—30.2</b>	<b>_34</b> .2	+ 4.0	—20. <b>3</b>	<b>-26.4</b>	+ 6.1	-r3.4	-17.6	+ 4.2	— 9.1	— 9.9	+ o 8	<b>—18.6</b>	<b>—14.8</b>	<b>— 3.8</b>
20.5	-33.8	<u>-32</u> 4	_ 1.4	<b>—27.8</b>	-25.7	_ 2.1	20.0	<b>—18.9</b>	I.I	-14.8	<b>—13.3</b>	— 1.5	—15.o	-18.4	+ 3.4
21.5	<b>—33.6</b>	26.2	- 7.4	<b>_30,2</b>	<b>—20,1</b>	—10.I	_23,4	15.6	<b>-</b> 7.8	-16.4	-13.6	_ 2.8	17.4	-18.4	+ I.o
	<b>— 3.6</b>	İ													l
	<b>—17.8</b>	ŀ	Ī											,	
	<u> </u>	l 	!	<u> </u>		1	1 1		,			<u> </u>			1

Tabulation of observed and computed diurnal variation of magnetic declination at Teplitz Bay-Continued

al mean time		ember 20 cember			mber 2 nuary 2			uary 24 bruary :			ruary 21 Iarch 19		Ma	rch 20 ( April 16	to
Local ti	0	С	0-C	0	С	o-c	0	С	0-C	. 0	С	о-с	0	С	0-C
h	,	,	,	,	,	,	,	,	,	1,	,	,	,	,	,
0.5	+ 3.3	+ 4.2	- 0.9	-· I.I	+ 0.4	- 1.5	+ 9.8	+ 6.3	+ 3.5	+ 5.1	+ 2.0	+ 3.1	+ 58	+ 3.1	+ 2,.7
1.5	+ 2.5	+ 3.6	1.1	+ 1.5	+ 6.6	- 5.1	+12.5	+13.3	_ ,o.8	+ 5.4	+ 6.1	— o.7	+ 8.3	+ 8.1	+ o.2
2.5	+ 3.6	+ 4.5	- 0.9	+14.2	+12.6	+ 1.6	+17.1	+17.1	0.0	+ 5.3	+ 7.2	_ <sub>.t.</sub> 1.9	+11.1	+14.7	- 3.6
3-5	+10.8	+ 8.9	+ 1.9	+21.3	+17.8	+ 3.5	+14.9	+18.0	- 3.1	+ 7.8	+ 6.6	+ 1.2	+21.3	+24.5	- 3.2
4.5	+15.8	+15.6	+ 0.2	+22.0	+22.1	— о. т	+21,9	+17.8	+ 4.1	+ 6.4	+ 7.2	- o.8	+40.4	+35.2	+ 5.2
5.5	+20.6	+21.0	— o.4	+22.4	+24.2	- 1.8	+16.4	+17.8	<b>— 1.4</b>	+ 8.7	+ 9.9	— I.2	<b>+43.3</b>	+41.4	+ 1.9
6.5	+20.8	+21.6	— o.8	+19.6	+22.1	_, 2.5	+18.8	+16.4	+ 2.4	+14.2	+13.0	+ 1.2	+37.0	+39.0	_ 2.0
. 7 - 5	+16.9	+16.8	+ o.1	+16.5	+14.8	+ 1.7	+ 5.3	+11.8	<b>—</b> 6,5	+15.0	+13.7	+ 1.3	+24.4	+28.5	— 4. I
8.5	+ 9.9	+ 8.6	+ 1.3	+ 7.3	+ 3.7	+ 3.6	+ 8.1	+ 3.3	+ 4.8	+ 7.6	+10.7	<b>—</b> 3.1	+17.6	+15.1	+ 2 5
9-5	<b>— 1.2</b>	+ 0.4	<b>— 1.6</b>	<b>—</b> 9.1	<b>— 7</b> .0	_ 2.1	<b>—</b> 5⋅3	- 6.2	+ 0.9	+ 4.2	+ 5.2	— 1.0	+ 5.2	+ 4.1	+ 1.1
10.5	4.7	5.5	+ o.8	-15.5	_12.9	_ 2.6	-13.1	-12.3	— o.8	+ 2.1	- o.r	+ 2.2	— 1 <b>.</b> 3	<b>—</b> 2.4	+ 1.1
11.5	<b>— 8.2</b>	_ 8.8	+ 0.6	—11.3	-12.5	+ 1.2	-14.9	<b>—12.4</b>	<b>— 2.</b> 5	2.4	— 3·7	+ 1.3	7.9	<b>—</b> 6.3	<b>— 1.6</b>
12.5							<b>— 5.4</b>								
13.5						l	<b>— 4 3</b>			ĺ					
14.5		i	i	i			2.7								
15.5		<b></b> 6.4				1	o.5			l					l
16.5	-						-13.8	1, ,			1 '				1
17.5		<b>— 7</b> 2					<b>-</b> 9.8	-				Į į	22.3		
18.5			l i				-11.3		1		2.4				
1							- 6.4			i	i		<u>-21.1</u>	,	
1				i i			15.7			1	1			10	
1		i				1	1			ĺ		1			1
. ]	- 1		1	,		l .	-11.8						,		
22.5							- 2.2			1					l .
23.5	+ 6.4	+ 2.8	+ 3.6	- o. I	— <b>5</b> .0	+ 4.9	7.3	<u> </u>	<b>—</b> 5⋅5	- 5.4	- 4.1	— I.3	+ 0.9	- 3.1	+ 4.0

Tabulation of observed and computed diurnal variation of magnetic declination at Teplitz Bay-Continued

mean	April	17 to Ma	ay 14	May 1	5 to Ju	1e II	June	12 to Ju	ıly 1	Octob	er 4 to J	uly 1	М	ean Yea	ır
Local me	0	С	0—C	0	С	0-0	0	<i>C</i>	0C	0	С	0-C	0	С	0-6
h 0.5	+ o.3	_ í.8	, + 2.1	_10.3	_ <sub>5</sub> .6	, 4.7	- 5.2	- 6.2	, + 1.0	, + 1.3	+ o.3	, + 1.0	, 0.2	_ o.1	, - 0.1
1.5	+ 5.8	+ 8.o	- 2.2	+11.2	+ 7.8	+ 3.4	+ 3.0	+ 2.8	+ 0.2	+ 5.4	+ 7.4	- 2.0	+ 4.3	+ 6.1	— 1. <sup>1</sup> 8
2.5	+17.2	+16.9	+ 0.3	+22.1	+22.3	— o.2	+19.6	+15.9	+ 3.7	+14.3	+14.7	<b>- 0 4</b>	+15.0	+12.9	+ 2.1
3.5	+25.1	+25.5	<b>– 0.4</b>	+34.2	+34 9	— o.7	+29.2	+32.6	<b>— 3</b> ⋅4	+24.0	+22.0	+ 2.0	+20.7	+20.4	+ 0.3
4.5	+35 3	+33.4	+ 1.9	+43.1	+42.5	+ 0.6	+44.3	+47.6	— <b>3</b> .3	+27.8	+27.9	- o.1	+25.8	+27.2	— 14
<b>5</b> ·5	+36.7	+37.7	— 1.o	<b>+43.6</b>	+42.6	+ I.o	<b>+58.9</b>	<b>+54.3</b>	+ 4.6	<b>+28.9</b>	+30.1	- 1.2	+30.0	+30.4	0.4
6.5	+33.2	+35.0	<b>— 1.8</b>	+38.6	+35.1	+ 3.5	+5o.6	+50.4	+ 0.2	+27.3	+27.1	+ 0.2	+29.8	+28.2	+ 1.6
7.5	+29.1	+25.2	+ 3.9	+18.8	+23.1	- 4.3	+39.0	+39.0	0.0	+19.6	+19.4	+ 0.2	+20.1	+21.0	— o.9
8.5	+ 9.1	+12.5	3.4	+12.8	+11.6	+ 1.2	+24.8	+26.5	<b>—</b> 1.7	+10.4	+ 9.9	+ 0.5	+11.9	+11.8	+ 0.1
9.5	+ 3.0	+ 2.6	+ 0.4	+ 7.3	+ 4.5	+ 2.8	+14.8	+17.8	- 3.0	+ 1.2	+ 1.9	- 0.7	+ 3.2	+ 3.9	— o.7
10.5	+ 0.4	·I.4	+ 1.8	+ 2.4	+ 2.8	— o.4	+18.3	+12.9	+ 5.4	— 2.2	- ż.8	+ 0.6	+ 0.3	— 1.0	+ 1.3
11.5	— 1.6	· I . 5	— о. 1	<b>— 3</b> ⋅5	+ 3.4	<b>—</b> 6.9	+10.0	+ 8.7	+ 1.3	- 5.4	′5.o	— o.4	<b>— 4.2</b>	— g.6	— o.6
12.5	- 4.7	- 2.6	- 2.1	+ 3.9	+ 2.0	+ 1.9	<b>— 2.</b> I	+ 2.6	- 4.7	<b>— 6.7</b>	6.4	— о.з	— 6.9	5.6	— I.3
13.5	<b>—</b> 7.8	— 7·5	— о.з	+ o.1	<b>— 3 6</b>	+ 3.7	- 5.3	— <b>5.2</b>	— о. 1	- 7.8	— 8 4	+ 0.6	<b>— 6.4</b>	<u>–</u> 8.1	+ 1.7
14.5	—10.9	<b>—14.8</b>	+ 3.9	—13.6	—12.4	<b>— 1.2</b>	— <b>10.4</b>	—12.6	+ 2.2	<b>—</b> 10.4	—10.6	+ 0.2	—ıo 8	—10.6	- 0 2
15.5	22.4	20.2	_ 2.2	-24.9	-20.9	- 4.0	-17.4	—19.o	+ 1.6	—12.6	-12.4	— o.2	13.5	-12.5	— то
16.5	-22.I	-20.7	- 1.4	23.4	-25.8	+ 2.4	-30.3	-25.4	- 4.9	14.1	-13.2	- 0.9	-13.3	-13.6	+ 0.3
17.5	<b>—16.7</b>	<b>—17.8</b>	+ 1.1	<b>—23</b> .6	<b>26.8</b>	+ 3.2	26.5	33.3	+ 6.8	-12.9	— <b>1</b> 3.9	+ r.o	-14.2	14.8	+ 0.6
18.5	-14.5	—I5.5	+ 1.0	<b>—24.2</b>	-25.5	+ 1.3	<b>48.2</b>	<i>—</i> 41.6	- 6.6	-15.6	-15.2	- 0 4	-17.8	16.7	- 1.i
19.5	-17.3	<b>—16.8</b>	- o.5	<b>—26.5</b>	-24.6	- 1.9	<b>-45</b> ⋅7	<b>46.7</b>	+ 1.0	-17.1	— <b>17</b> .2	+ o.1	<b>—17.6</b>	—ı8.9	+ 1.3
20.5	<u> </u>	20.8	B 1.3	26.o	-24.6	— I.4	<b>—39.8</b>	-45.1	+ 5.3	<b>—17.8</b>	-18,4	+ 0.6	19.6	<b>—19</b> .6	00
21.5	-20.8	-23.1	+ 2.3	-22.8	-24.6	+ 1.8	<b>—42.3</b>	<b>—36.</b> 6	- 5.7	<b>—18.6</b>	-r7.3	- 1.3	<b>_20</b> 5	17.5	<b>— 3.0</b>
22.5	-22.5	-20.2	2 - 2.3	<u>—21.9</u>	-22.3	+ 0.4	-20.7	<b>—25</b> .0	+ 4.3	—13.1	-13.1	0.0	— <u>9</u> .0	<b>—12.7</b>	+ 3.7
23.5	-11.7	—I2.2	+ 0.5	—I7.I	—16.c	- 1.1	-18.1	-14.5	— з.6	6.o	- 6.8	+ o.8	<b>— 7.6</b>	<b>—</b> 6.4	

## CHARACTERISTICS OF DIURNAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY

The characteristic features of the curves, figures 5 to 19, representing the total diurnal variation in magnetic declination for the various periods discussed are summarized in the tabulation following. In this summary a plus sign denotes a departure to the east of the mean value, while a negative sign denotes a departure to the west of the mean value. The epochs of mean declination are designated I and II, the former being the passage of mean in course of westward movement, and the latter in course of eastward movement of the needle.

		Princ	cipal ph	ase			Secon	dary ph	ase		Epo	chs
Period	Maxi	mum	Miniı	num	Total range	Maximum		Mini	mum	Total range	decl	
	L.M.T.	Am't	L.M.T.	Am't	Total	L.M.T.	Am't	L.M.T.	Am't	Total	I	II
1903-1904	h	,	h	,	,	h	,	h	,	,	h	h
July (interpolated)	5.8	+44 3	19.6	<u> —</u> 34.1	78.4	*	*	*	*	*	12.8	1.5
August (interpolated)	6.0	+34.0	19.9	<b>—26.8</b>	60.8	*	*	*	*	*	12.0	1.2
September (interpolated)	6.I	+25.1	20.2	<b>—19.4</b>	44.5	16.8	<b>— 8.</b> 7	14.3	—11.8	3.1	11.0	0.2
October 4 to October 30	5.6	+20.8	21.1	-13.7	34 5	17.4	<b>— 3</b> ⋅9	13.8	11.1	7.2	9.8	0.3
November 1 to November 28	4.2	+39.2	21.0	— <b>1</b> 8.6	57.8	17.0	- 3.8	13.5	<b>—16.3</b>	12.5	8.4	ò.6
November 29 to December 26	6.2	+21.9	19.8	-13.3	35.2	16.4	<b>−</b> 5.4	12.5	10. I	4.7	9.6	22.9
December 27 to January 23	5.6	+24.0	18.0	—10.8	34.8	14.2	- 2.7	11.0	-13.3	10.6	8.8	0.4
January 24 to February 20	5.2	+18.1	18.2	-11.3	29.4	14.3	_ 2.0	II.o	-13.0	11.0	8.9	23.8
February 21 to March 19	7.3	+14.0	21.8	- 9.9	23.9	18.7	- 2.2	15.1	9. r	6.9	10.5	0.1
March 20 to April 16	5.6	+41.4	20.2	<b>—23</b> .0	64.4	17.7	-19.1	15.5	-21.2	2.1	10.1	0.0
April 17 to May 14	5.5	+37.4	21.4	<b>—23.</b> I	60.5	18.6	-15.7	16.0	-21.2	5.5	9.9	0.7
May 15 to June 11	5.0	+43.1	21.1	-25.1	68.2	20.0	-24-5	17.3	-26.8	2.3	12.9	0.9
June 12 to July 1	5.4	+54.2	19.8	-47.I	101.3	*	· *	*	*	*	12.8	1.2
Summer mean-Oct. to March.	5.7	+39.2	20.1	27.5	66.7	*	*	*	*	*	11.6	1.2
Winter mean—April to Sept	5.4	+21.2	20.9	-12.6	33 8	16.7	<u> </u>	14.2	- 7.4	1.8	9.2	23.8
Mean of year	5.6	+30.4	20.4	<b>—19.8</b>	50.2	*	*	*	*	*	10.2	0.

<sup>\*</sup>For these intervals the secondary phases, while indicated, have their crests no longer definitely marked.

From the above it at once appears that the principal maximum and minimum of east declination occur at earlier and later times respectively than for stations in lower latitudes. The morning extreme is reached almost always between 5 and 6 o'clock. The afternoon extreme varies between 6 and 10 o'clock without any very systematic cycle dependent upon the chronological order of the periods; in the half-yearly means, however, it is earlier for the winter season than for the summer season by about one hour. The increase in diurnal range

from winter to summer is quite pronounced. In the half-yearly means this difference in range is quite clearly shown by the curves of figure 19, in which the October to March mean is indicated by the dotted line and the April to September mean by the broken line.

In general the curves show also a secondary maximum and minimum between the two principal extremes of day; in several cases the minimum of this second wave exceeds the principal western deviation in amount. As will be noted, this secondary wave is very prominent in the winter season; with the approach of the summer months it becomes less and less pronounced until in midsummer, though still recognizable, the critical points are no longer definitely marked. In general the time interval between the minimum and maximum of this wave is about two and one-half hours; it is, as a whole, earliest in midwinter, with its center at about one-half hour past noon, from which time, with the advancing season, it is carried forward with diminishing range until the disappearance of the crests, when its center is at about 5 P. M. to 6 P. M. By reason of this transposition as a whole the effect is practically eliminated in the year's mean and very greatly smoothed out in the winter's mean. These secondary extremes are much more pronounced and of greater yearly range, though practically of the same period as for the same feature when noted at stations in lower latitudes; it is, however, superimposed on the mean curve later in the day. Thus for the Girard College observations at Philadelphia, Bache\* found the extremes of a similar effect for the winter at 9.7 hours and 13.2 hours, and for the summer at 10.2 hours and 13.2 hours, the seasonal ranges being respectively o.'71 and o.'15.

The change of the epochs of mean declination with the season is very marked and, in general, very regular, being earliest in winter at 9 hours and 23 hours and latest in summer at 13 hours and 1.5 hour local time. In the half-yearly means the epoch I is later in summer than in winter by 2.4 hours, and epoch II by 1.4 hours. On the average for the year epoch I is at 10.2 hours A. M., a time, which as will be seen later, agrees well with that for the same event at stations widely distributed over the Earth.

In order to make a proper comparison of the total solar-diurnal variation in magnetic declination for the mean year at Teplitz Bay with the corresponding phenomenon for stations elsewhere on the Earth, particularly in the Arctic Regions, a compilation of the mean hourly variations on the mean of year has been prepared for some twenty-four additional locations. In all cases where the published records have been immediately available the observed means have been taken without elimination of the so-called "disturbances" in order that the results may be strictly intercomparable. When, as is the case for many of the stations, the mean observed quantities do not apply to the local mean hours, the values have been plotted to scale and the hourly values taken from the smooth curves drawn through the points plotted. The departures from mean as shown in the tabulation are all referred to the north-seeking end of the needle a plus sign indicating a movement to the east and a minus sign a movement to the west of the mean position. The words "maximum" and "minimum" are used in the sense of eastern and western elongations respectively. The stations are arranged in the decreasing order of northerly magnetic inclination for the purpose of bringing out clearly the relation between magnetic dip and range of the diurnal variation in declination. The geographical positions, series of observations from which results are taken, the mean dips over the periods of observa-

<sup>\*</sup>Discussion of the magnetic and meteorological observations made at the Girard College Observatory, Philadelphia, in 1840, 1841, 1842, 1843, 1844, and 1845, by A. D. Bache. Part II. Smithsonian Contributions to Knowledge. Washington, June, 1862.

tion, as also the approximate corresponding mean sun-spot frequencies according to Dr. Wolf and Professor Wolfer,\* are as follows:

Number	Station	Latitude	Longitude east of Greenwich	Magnetic inclina- tion	Magnetic latitude	Observations	Approximate mean sun-spot
1	Fort Conger, Grinnell Land	o / 81 44 N	° / 295 16	° / 85 oi N	o / 80 o6 N	Aug., 1882, to July, 1883	
2	Kingua Fjord, Cumberland Sound	CC at N		: 0 NY			
3	Teplitz Bay, Rudolph Island	66 36 N	292 41	83 51 N	77 50 N	Oct., 1882, to Sept., 1883	60
		81 47 N	58 09	83 12 N	76 35 N	Oct., 1903, to June, 1904	(80)
4	Ssagastyr, Siberia.	73 23 N	126 36	83 09 N	76 29 N	Jan., 1883, to Dec., 1883	64
5	Fort Rae, Great Slave Lake, Canada	62 39 N	244 46	82 54 N	76 or N	Oct., 1882, to Sept., 1883	60
6	Ooglaamie, Alaska	71 18 N	203 20	81 24 N	73 10 N	Sept., 1882, to Aug. 1883	<b>6</b> 0
7	Cape Thordsen, Spitzbergen	78 28 N	15 42	80 27 N	71 24 N	Sept., 1882, to Aug., 1883	60
8	Jan Mayen Island	71 00 N	351 32	79 00 N	68 45 N	Sept., 1882, to July, 1883	60
9	Karmakul Bay, Novaia Zemlia.	72 23 N	52 42	78 43 N	68 15 N	Oct., 1882, to Aug., 1883	60
10	Bossekop, Norway	69 58 N	23 15	76 26 N	64 14 N	Aug., 1882, to July, 1883	59
11	Sitka, Alaska	57 03 N	224 40	75 55 N	63 21 N	Irregular series, 1848 to 1862.	(60)
12	Toronto, Canada	43 39 N	280 36	75 15 N	62 14 N	July, 1842, to June, 1848	<b>51</b>
13	Sodanklä, Finland	67 24 N	26 36	74 48 N	61 29 N	Sept., 1882, to Aug., 1883	60
14	Ekaterinburg, Siberia	56 49 N	60 38	70 39 N	54 55 N	Jan., 1893, to Dec., 1893	83
15	De Bilt, Netherlands	52 06 N	5 11	66 51 N	49 28 N	Jan., 1903, to Dec., 1903	(60)
16	Los Angeles, United States	34 03 N	241 45	59 30 N	40 20 N	Oct., 1882, to Oct., 1889	36
17	Key West, United States	24 33 N	278 12	54 32 N	35 04 N	March, 1860, to March, 1866.	57
18	Zi-ka-wei, China	31 12 N	121 36	45 42 N	27 08 N	Jan., 1901, to Dec., 1901	(10)
19	Colába, India	18 54 N	72 49	21 30 N	11 09 N	Jan., 1901, to Dec., 1901	(1o)
20	St. Helena Island	15 57 S	354 20	21 59 S	11 25 S	Sept., 1842, to Aug., 1847.	38
21	Buitenzorg, Java	6 11 8	106 50	30 33 S	16 27 S	Jan., 1904, to Dec., 1904	(80)
22	South Georgian Island	54 31 S	324 00	48 58 S	29 53 S	Sept., 1882, to Aug., 1883	60
3	Cape of Good Hope, Africa	33 56 S	18 29	53 21 8	33 54 S	April, 1841, to June, 1846	29
4	Mauritius Island	20 06 S	57 33	54 51 S	35 23 S	Jan., 1883, to Dec., 1883	64
5	Hobarton, Tasmania	42 52 S	147 28	70 36 S	54 51 S	Jan., 1841, to Sept., 1848	49

The references for each of the above series are as follows:

Fort Conger, Grinnell Land—International Polar Expedition to Lady Franklin Bay, Grinnell Land, by Lieut. A. W. Greely. (Volume 2, reduction of magnetic observations by C. A. Schott.) Washington, 1888.

<sup>\*</sup>As collected and plotted by Mr. W. Ellis in his paper on the relation between diurnal range of magnetic declination and horizontal force and solar spots (Proceedings of the Royal Society. Volume 63, pp. 64-78). The values after 1896 are exterpolations based on Mr. Ellis' curves; these are indicated by enclosure in parentheses.

Kingua Fjord, Cumberland Sound—Die Internationale Polarforschung, 1882–1883; die Beobachtungs-Ergebnisse der Deutschen Stationen, Band I, Kingua Fjord. Herausgegeben von Prof. Dr. G. v. Neumayer und Prof. Dr. C. Börgen. Berlin, 1886.

Teplitz Bay, Rudolph Island—The present reductions.

Ssagastyr, Siberia—Beobachtungen der Russischen Polarstation an der Lenamündung; astronomische und magnetische Beobachtungen 1882–1884, bearbeitet von V. Fuss, F. Müller, und N. Jürgens. Herausgegeben unter Redaction von Dr. A. v. Tillo. 1895.

Fort Rae, Great Slave Lake, Canada—Report of Superintendent of the United States Coast and Geodetic Survey for 1890; Appendix No. 9, by C. A Schott. Washington, 1891.

Ooglaamie, Alaska—Report of Superintendent of the United States Coast and Geodetic Survey; Appendix No. 13, by C. A. Schott. Washington, 1891.

Cape Thordsen, Spitzbergen—Observations faites au Cap Thordsen, Spitzberg, par l'Expedition Suédoise; tome I: 4, magnetisme terrestre, par E. Solander. Stockholm, 1888.

Jan Mayen Island—Die Österreichische Polarstation Jan Mayen; Beobachtungs-Ergebnisse. II Band, II Abtheilung. Magnetische Beobachtungen auf Jan Mayen 1882–1883, bearbeitet von Linienschiffs-Lieutenant August Gratzl.

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Tabulation of the mean yearly total solar-diurnal variation in magnetic declination at various stations [Eastern deflection of north-seeking end from mean is indicated by a plus sign; western deflection by a minus sign.]

Local mean time, civil reckoning	I—Fort Conger, Grinnell Land	2-Kingua Fjord, Cumberland Sound	3—Teplitz hay, Rudolph Island	4—Ssgastyr, Siberia	5—Fort Rae, Great Slaye Lake	6—Uglaamie, Alaska	7—Cape Thordsen, Spitzbergen	8—Jan Mayen Island	9—Karmakul Bay, Novaia Zemlia	.10—Bossekop, Norway	II—Sitka, Alaska	12—Toronto, Canada	13—Sodanklä, Finland
h	,	. /	. /	′	,	/	,	. /	,	/	, /	,	,
I	+38.7	+11.7	+ 3.1	— 6.2	-11.0	-11.2	+ 1.8	+ 7.0	+11.8 + 12.8	+ 8.7	+ 0.2	+ 0.6	+ 5.1
2	+36.2	+15.8 +18.0	+ 9.8	+ 0.7 + 6.7	- 6.6 + o.8	-3.3 + 3.9	+ 6.2	+10.7 +13.8	+12.6 $+11.4$	+ 9.7 + 9.9	+ 1.0 + 1.4	+ o.5 + o.8	+ 4.8 + 4.7
3 4	+33.2 $+29.4$	+19.1	+17.1 $+23.9$	+ 6.7	+ o.8 + 7.4	+ 3.9 + 7.9	+16.2	+15.6	+ 9.5	+ 8.7	+ 2.0	+ 1.2	+ 4.4
5	+24.7	+19.1	+29.4	+13.9	+13.6	+15.4	+22.2	+15.0	+ 7.4	+ 6.0	+ 2.9	+ 1.8	+ 4.0
6	+18.6	+20. I	+30.1	+14.3	+21,0	+22.1	+25.3	+11.2	+ 5.6	+ 4.2	+ 4.2	+ 2.7	+ 3.2
						·							+ 2.6
7 8	+ 8.6	+19.9	+24.9	+13.2	+26.2	+26.9 $+26.3$	+22.3 $+17.0$	+ 7.8   + 5.7	+ 4.9 + 2.5	+ 3.1 + 1.8	+ 5.3 + 6.0	+ 3.5 + 3.8	+ 2.0
9	— 0.5 —12.1	+17.4 +10.8	+16.9 + 7.7	+ 9.7 + 4.3	+29.4 +25.5	+20.1	+17.0	+ 5.7 + 3.0	+ 1.3	+ 0.7	+ 5.3	+ 3.0	+ 1.6
10	23.2	+ 3.7	+ 1.1	+ 1.3	+16.8	+ 7.4	+ 6.9	+ 2.0	- 0.2	— o.6	+ 3.0	+ o.8	+ 0.7
11	<b>−37.9</b>	+ 1.3	<b>— 2.6</b>	- I.8	+ 8.0	- I.o	+ 4.3	0.0	- 2.0	- 2.9	+ 0.6	- 2.0	<b>— 1.7</b>
12	<b>—43.</b> 1	<b>— 9.0</b>	<b>— 4.9</b>	— 4. <b>т</b>	- 0.9	- 6.5	+ 2.0	- 2.3	- 4.3	- 5.2	_ 2.1	- 4.2	<b>— 4.0</b>
13	-51.1	-15.1	— 6. <sub>5</sub>		_	- 7.4	— o.5		<b>—</b> 7.3	- 6.8	<b>— 3.2</b>	<b>— 5.0</b>	- 5.8
14	50.8	-2I.2	— 0.5  — 9.6	— 5⋅3 — 5⋅9	- 4.0 - 8.1	- 7.6	— 6.2	- 4.3 - 6.0	- 9.9	<b>-</b> 7.6	4.2	4.8	6. <sub>5</sub>
15	-46.1	-20.4	—II. <b>9</b>	— 5.9	—10.6	— 7.9	— 9.9	— 7.o	—II.5	- 7.9	- 4.6	- 3.8	6.4
16	-34.2	<b>—20.6</b>	—12.9	— 5·3	11.3	— 9.6	—I2.I	- 8.2	-11.4	<b>— 7.6</b>	- 4.6	_ 2. <sub>5</sub>	- 5.4
17	19.9	-23.6	<b>—14.</b> 0	- 3.7	-12.1	9.9	<b>—14.3</b>	<b>—10.4</b>	_1o.8	— 7.4	- 2.8	- 1.3	<b>- 4.8</b>
ï8	4.1	<b>—19.4</b>	-15.7	- 2.4	-12.9	<b>—</b> 9.7	<b>—16.5</b>	-13.1	— 9.5	<b>— 6.</b> o	3.2	— o.3	— 3.0
19	+ 3.1	—16. I	-17.8	- 1.9	-12.5	— 8.o	—18.3	<b>—14.2</b>	8.0	<b>— 6.6</b>	- 2.4	+ 0.2	<b>— 2.8</b>
20	+13.0	-15.5	-19.6	- 2.3	0.11	— <b>6.</b> 1	<b>—19.8</b>	-13.4	6.0	- 5.3	- 1.4	+ 0.7	— <b>1.8</b>
21	+19.0	- 8.8	<b>—19.1</b>	<b>— 5.0</b>	-12.0	<b>—</b> 8.7	-19.4	io.i	- 3.2	- 1.6	o.8	+ 1.2	+ 1.0
22	+27.3	— o.6	<b>—15.6</b>	<b>—</b> 7⋅3	-11.9	10.5	-15.4	- 5.3	+ 1.0	+ 0.1	0.4	+ 1.3	+ 1.0
23	+35.3	+ 3.9	-10.2	9.1	-11.9	— 8.9	—10.0	- 1.5	+ 6.0	+ 5.3	o.6	+ 1.2	+ 2.8
24	+35.9	+ 9.2	— 3.6	- 9.5	12.0	<b>—13.7</b>	— 3.9	+ 4.0	+ 9.9	+ 7.3	— o.6	+ 0.8	+ 4.2
	0.7 H	5.9 H	56H	5.5 H*	8.1 H	7.3 H	4.8 H	4.3 H	1.9 H	2.7 H	8.2 H	7.8 H	1.3 H
L. M. T	+39.′0	+20./2	+30.75	+14./3	+29.15	+27./4	+25./6	+15.76	+12./8	+ 9./9	+ 6.′r	+ 3./9	+ 5./2
H L. M. T X 日 Amount	13.4 H	16.8 H	20.4 H	23.7 H*	18.3 H	0.3 H	19.4 H	19.3 H	15.7 H	15.0 H	15.4 H	13.3 H	14.4 H
	-52.0	-23.7	19./7	- 9./7	—13. <b>′</b> 0	<b>—13.</b> ′9	20./0	14./3	12.′o	— 8.′o	<b>- 4</b> ·′7	- 5.'2	— 6. <b>′</b> 6
Total observed range	91./0	43./9	50./2	24.′0	42.′5	41./3	45./6	29./9	24./8	17./9	10./8	9.1	11./8
Calculated range.	85./3	56.7	50.73	46.1	43./2	30./0	24./8	19./2	18./4	13./3	12./5	10./9	11./1
				,				-	·				
Summer range, S Winter range, W	100.'4 80.'7	45./1	66.7	29./0	•••	45.78	54.7	33.′o 26.′8	30./5	20./8	••••	11./9	13./6
Ratio $\frac{S}{W}$	1.24	42. <sup>7</sup> 7	33.′8 1.97	19./7	•••	38.′4 1.19	36./6 1.49	1.23	21. <sup>4</sup> 1.43	15.′1	• • • •	6./ <sub>5</sub>	10./9
- ''	1.24	1.00	1.9/	1.4/		1.19	1.49	1.23	1.43	1.30	••••	1.03	1.23
Epochs of nean declination	7.9 H 18.5 H	11.2 H 22.2 H	10.2 H 0.5 H	10.2 H 1.9 H	11.9 H 2.9 H		11.7 H 23.7 H	l	9.9 H 21.8 H	-	11.2 H 0.7 H		10.3 H 20.7 H

<sup>\*</sup>At this station a pronounced second maximum and minimum at 19.3 H and 14.6 H of — 1.78 and — 6.70 respectively.

Tabulation of the mean yearly total solar-diurnal variation in magnetic declination at various stations [Eastern deflection of north-seeking end from mean is indicated by a plus sign; western deflection by a minus sign.]

Local mean time, civil reckoning	14—Ekaterinberg, Siberia	15—De Bilt, Netherlands	16—Los Angeles, United States	17—Key West, United States	18—Zi-ka-wei, China	19—Colába, India	20-St. Helena Island	21—Buitenzorg, Java	22-South Georgia Island	23—Cape of Good Hope, Africa	24-Port Louis, Mauritius Island	25—Hobarton, Tasmania
h	,	,	,	,	,	• ,	,	,	,	,	,	,
1	+ 1.0	+ 0.9	0.0	0.0	+ 0.1	+ o.1	+ 0.1	0.0	- o.8	+ 0.5	0.0	— 1.o
2	+ 0.9	+ 2.8	+ 0.1	0,0	+ 0.1	+ 0.1	+ 0.1	+ 0 1	- 10	+ 0.5	0.0	- o.7
3	+ 0.9	+ 0.8	+ 0.2	+ 0.1	+ 0.2	0.0	+ 0.1	+ 0.2	- I.2 - I 4	+ o.5 + o.4	0.0	- 0.5 - 0.4
4	+ 1.3	+ 1.0 + 1.5	+ o.3 + o 6	+ 0.2	+ 0.2 + 0.2	0.0	+ 0.1	+ 0.1	- 1.4	+ 0.4	- 0.1	- 0.4 - 0.7
5 6	+ 1.9	+ 2.0	+ 1.3	+ 1.0	+ 0.2	+ 0.4	+ 0.4	+ 0.1	- 1.5	+ 0.3	— o.2	- 1.1
						1			i		0.6	
7 8	+ 3.0 + 3.6	+ 2 4 + 2.7	+ 2.4 + 3.1	+ 2.1	+ 1.0	+ 0.8 + 1.1	+ o.1 - o.8	- 0.4 - 1.3	-1.6 $-2.3$	0,0 — 1.0	- I.6	- 2.0 - 3.0
	+ 3.7	+ 2.7 + 2.0	+ 3.1 + 2.6	+ 25 + 2.2	+ 1.7 + 1.8	+ 1.1 + 0.7	— I.I	1.8	- 2.6	<b>— 2.2</b>	- 2.6	- 3.5
9 10	+ 2.6	0.0	+ 1.1	+ 1.1	+ 1.1	0,0	— o.8	- 1.8	- 2.0	2.8	_ 2.7	_ 2.8
II	+ 0.5	_ 2.6	— o.8	— o.2	_ o.r	- o.8	+02	I.2	— o.5	2.2	1.9	— o.9
12	<b>— 2</b> .0	- 4.5	- 2.2	— I.4	<b>— 1.3</b>	— I.2	+ 0.8	— o.3	+ 1.6	o.8	- o.1	+ 1.4
13	4.2	<b>— 5.0</b>	_ 2.7	_ 2.1	- I.7	— т.о	+ 0.7	+ 0.5	+ 3.1	+ 0.4	+ 15	+ 3.6
14	<b>— 5.1</b>	- 4.3	<b>— 2.6</b>	- 2.2	— I.6	- o.5	+ 0.4	+ 1.0	+ 3.7	+ 1.3	+ 2.7	+ 4.7
15	<b>— 4.8</b>	- 2.8	- 2,0	<b>— 1.9</b>	- 1.1	- o.1	0.0	+ 1.4	+ 3.5	+ 1.3	+ 2.9	+ 4.6
16	<b>— 3.6</b>	— I.5	- 1.1	<b>— 1.3</b>	- o.5	十 0.2	— o.4	+ 1.3	+ 2.4	+ 1.0	+ 2.3	+ 3.5
17	— 2.I	- 0.4	— o.5	- o.8	0,0	+ 0.2	- 0.6	+ 0.9	+ 15	+ 0.4	+ 1.1	+ 2.2
18	— o.9	0.0	0.2	— o.4	0,0	0,0	— o.4	+ 0.5	+ 1.0	+ 0.2	+ 0.2	+ 1.2
19	— o.3	+ 0.3	0,0	— o.2	— o,1	— о. 1	.o. r	+ 0.4	+ o.5	+ 0.2	0.0	+ 0.5
20	0.0	+ 1.0	0,0	+ 0.1	— o.1	o.1	+ o.1	+ 0.2	+ 0.4	+ 0.2	- o.1	— o.2
21	+ 0.3	+ 1.2	+ 0.1	+ 0.2	o.1	- o.1	+ 0 2	+ o.1	+ 0.2	+ 0.3	- 0,2	- o.8
22	+ 0.5	+ 1.3	+ 0.1	+ 0.2	— o.1	00	+ 0.3	0.0	- o.4	+ 0.3	— o.2	- 1.3
23	+ o.8	+ 1.5	+ 0.1	+ 0,2	— o.1	0.0	+ 0.3	— o.1	— o.5	+ 0.4	— o.2	<b>— 1.5</b>
24	+ 1.0	+ 1.3	0,0	+ 0.1	0.0	+ 0.1	+ 0.2	0.0	— o.7	+ 0.4	- o,1	- 1.4
					0 - 77	0.77	**		- 1 1 TT	14.8 H	TE O H	74 4 11
L. M. T	8.6 H	8.2 H	8.1 H	8.2 H	8.7 H + 1./8	8.1 H + 1./1	12.4 H + 0./8	15.3 H + 1.'4	14.4 H + 3.′7	+ 1./4	15.3 H + 2.'6	14.4 H + 4./8
	+ 3./8	+ 2.7	+ 3 ′1	+ 2.'5 13 6 H		+ 1,'1 11.9 H	9.2 H	9.5 H	9.2 H	10.0 <b>H</b>	9.7 H	8.8 H
L. M. T	14.2 H 5.'1	12.9 H — 5.′0	13.2 H — 2./8	- 2./2	13 3 H — 1.′8	- I.'2	- I.'2	— 1. <sup>7</sup> 9	— 2.'6	- 2.48	— 2. <sup>7</sup> 8	- 3. <sup>'</sup> 6
	- 5.1	_ 5. 0	2.0	2. 2	1, 0					. ,		3
Total observed range	8./9	7./7	5./9	4.17	3./6	2./3	2.′0	3./3	6./3	4./2	5./4	8./4
Calculated range	8./2	5./9	4.′1	3./8	2.′9	2./5	2./5	2./9	3.74	3./4	3./8	7./1
Summer range, S.	13./5	10./1	7./7	6./6	5./2	4./0	4./3	4./3	8./8	6./3	7.′0	11./3
Winter range, W	5./2	5./8	4.76	3.76	2./2	0./9	2./4	2./9	4./3	3./8	5./8	5.′6
Ratio $\frac{S}{W}$	2.60	1.74	1.67	1.83	2.36	4.44	1.79	1.48	2.05	1.66	1.21	2.02
	11.2 H	10.0 H	10 <b>.6 H</b>	10.8 H	10. <b>9 H</b>	10.0 H	(7.1 H)	(21.6 H)	(21.2 H)	(6.9 H)	(19.0 H)	(19.6 H)
Epochs of nean decking III	20.0 H			19.7 H)			10.8 H	12.4 H	11.3 H	12.6 H	12.1 H	11.4 H

An inspection of the mean yearly ranges in diurnal variation for the stations of the above tabulation indicates that these ranges are in some way dependent upon the values of the respective magnetic dips, the greater ranges being associated with the greater inclinations. Dr. Bauer\* has announced a law covering this apparent interrelation, namely, that the mean value, d, for the year of the total diurnal amplitude of the magnetic declination is a function of the magnetic latitude,  $\varphi'$ , which may be in the general case expressed mathematically as

$$d = k \sec^2 \varphi'$$

in which the value of  $\varphi'$  is derived from the magnetic inclination, I, in accordance with the well-known formula

$$\tan \varphi' = 0.5 \tan I$$
;

k is a constant depending upon the position of the particular series under discussion in the sun-spot cycle. Dr. Bauer's preliminary value of k is 2.'58. Pending greater elaboration by him it has seemed desirable in connection with above compilation to determine values of k by grouping these stations in order of the approximate sun-spot frequencies given on page 297. Accordingly values have been derived by the method of least squares from groupings of stations as indicated in the following summary of results:

Grouping stations number	Mean sun-spot frequency for grouping	Resulting value of k
3, 14, and 21	81	2.71
1, 2, 4 to 11, 13, 15, 17, 22, and 24	60	2.52
12, 16, 18, 19, 20, 23, and 25	32	2.36

The ranges for the individual stations of the groupings have been calculated using the above values of k and the results placed against the actually observed quantities for each station. The agreement between the observed and computed ranges is, in the main, quite satisfactory.

#### MAGNETIC DISTURBANCES

As already stated, those days of observation on which particularly great disturbances in magnetic declination occurred may be readily noted by reference to the tabulation of circle readings of the magnet for the days on which the horizontal circle was shifted (see pages 20 to 26). In view of the fact that no continuous observations were made either for magnetic inclination or intensity in connection with those for declination, it has not been deemed worth while to attempt any general discussion or comparison of these disburbances. As will be noted from the miscellaneous remarks (pages 32 to 40), the magnetic storms were very frequently associated with the aurora borealis. On the other hand, the auroral displays were not always accompanied by magnetic disturbances, and vice versa.

The observations of November 1, 1903, between midnight and 8 A. M., local mean time are of particular interest, as they cover the final portion of the great magnetic storm of October

<sup>\*</sup>A remarkable law, by L. A. Bauer. Journal of Terrestrial Magnetism. Volume II, p. 70. Cincinnati, 1897. Also United States magnetic declination tables and isogonic charts for 1902, by L. A. Bauer. U. S. Department of Commerce and Labor, Coast and Geodetic Survey, O. H. Tittmann, Superintendent. 2d edition, p. 51. Washington, 1903.

final retreat south. As a result but one set of declination observations at Commander Cagni's station could be made. This set is herewith given in its entirety:

Station: Italian station, Teplitz Bay Instrument: Magnetometer IIII

Mark: Magnetic observatory

Magnet: No. 4

Date: June 23, 1904 Observer: W. J. P.

Line of detorsion: 54°

E E E I I I I	d 56.3 58.6 57.3	Right  d 58.9  60.3	Mean  d 57.60			Mark o /	Magnet °
E E I I	56.3 58.6 57.3	58.9 60.3	57.60			0 /	
E E I	57.3	_	50.45	1 50 6	A	347 57.7	94 08.7
E I I		"O.	59-45	Before	В	167 56.7	274 07.5
I I	54-9	58.9	58.10		A	347 57.9	94 08.2
I		56.9	55.90	After	В	167 56.9	274 07.5
İ	51.5	49.9	50.70		<u>'</u>		
I	51.4	50.0	50.70	Mean	ns	347 57.30	94 07.98
1	52.4	51.2	51.80				
1	52.3	50.8	51.55				
I	50.7	49-4	50.05				
1	56.o	44.2	50.10	Seale er	ect me	an	d 57⋅38
I	57.0	45-3	51.15		•	mean	0,0
I	57.0	46.0	51.50		, 01 000,		
E	57.0	57.9	57.45	A	xis	• • • • • • • • • • • • • • • • • • • •	54 .16
E	56.8	57.9	57.35	ŀ			
E,	56.3	57-3	56.80				
E	55-9	56.9	56.40				
			d 57.38 54.16				•
			+ 3.22 +5.′06	Local m	ean tin	ıe	11 17.0
ading.		94°	07./98	Remark	s:		
		_		Calı	m aud o	clear	
s. M.	reading	9	4 13.0	Теп	iperatu	re: + 12.°0	
ding .		34	7 57.30	Í <b>l</b>			57°
_		!					
M. read	ding						
declin	ation, e	ast 2	2 02.4				
variatio	on	-	- 9,1				
	e read  it o an  ding.  S. M.  ling.	te reading, erections to axis	E 55.9 56.9  le reading, erect.  xis	## 55.9   56.9   56.40  ## reading, erect.	E   55.9   56.9   56.40	E   55.9   56.9   56.40	E   55.9   56.9   56.40

<sup>\*</sup>Counted from south around by west from oo to 3600.

Owing to the fact that no suitable instrument was available, observations at the observatory simultaneous with the above could not be made. The observations nearest in point of time at the hut are those of June 22 and June 23. Correcting the two-minute readings of June 22 between 20 hours and 24 hours for diurnal variation a mean value of 22° 51′ results. In like manner, the observations on June 23 between 16 hours and 20 hours give a mean value of 22° 19′. It thus appears, since the average value during the period June 12 to July 1 is 22° 32′, that, while the general magnetic conditions preceding the observations at the Italian station by thirteen to fourteen hours were such as to give declinations high by about 19′, the conditions six to seven hours later were such as to give declinations low by about 13′. It therefore seems quite probable that between 11 and 12 A. M. the magnetic conditions were about normal, and hence a direct comparison with the preceding may be made.

As already noted, Commander Cagni's results at about the same season of year were 21° 15.'6 and 21° 25.'0 for the epochs 1899.66 and 1900.55, or in the mean 21° 20.'3 for 1900.10. The result above for epoch 1904.48 is 21° 53.'3; hence the apparent effect in the elapsed interval of 4.4 years due to secular variation is an increase of east declination of 33'. Assuming a linear change over the interval, the secular change in magnetic declination in the region of Teplitz Bay may be taken as about

## +7.5 per year.

It may be noted that this value is of the same magnitude as those deduced by Dr. Solander\* for Mossel Bay and Cape Thordsen, Spitzbergen, for the periods 1873.5 to 1899.7 and 1883.2 to 1899.7, viz., 7.'3 and 7.'8 decreasing west declination respectively. The geographical positions of these stations are: Mossel Bay, 79° 53' north latitude and 16° 04' east longitude; Cape Thordsen, 78° 28' north latitude and 15° 42' east longitude.

<sup>\*</sup> Missions scientifiques pour la mesure d'un arc de méridian au Spitzberg entreprises en 1899-1902 sous les auspices des gouvernements Suédois et Russe—Mission Suédois. Tome II Déterminations magnétiques faites au Spitzberg pendent l'été 1899, par E. Solander. Stockholm, 1903, p. 50.

#### Annual Variation in Magnetic Declination

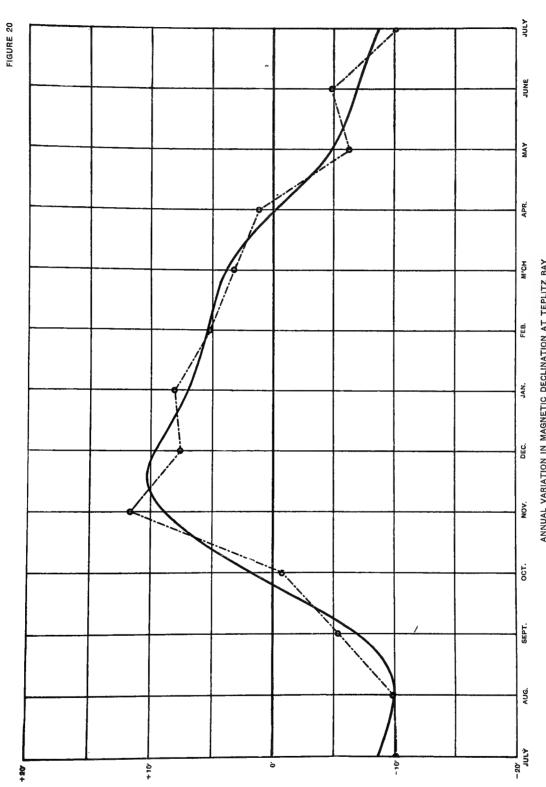
By means of the preceding value of the annual rate of secular variation in magnetic declination at Teplitz Bay the monthly mean hourly declinations and means were reduced to epoch 1904.0 as per tabulation on page 288. By the use of Bessel's periodic function in the particular case of a cycle of twelve equidistant observations the following expression has been obtained, after the methods detailed on page 290, as representing the annual variation:

$$D = 22^{\circ} 38.'5 + 9.'27 \sin (\theta + 244^{\circ} 59') + 2.'32 \sin (2\theta + 141^{\circ} 07') + 1.'41 \sin (3\theta + 4^{\circ} 45') \pm 0.'33^{*}$$

In this formula the angle  $\theta$  counts from the middle of June as  $o^{\circ}$ , no account being taken of the inequality in length of months. The addition of a fourth term results in no improvement, as in this case the probable error is identical with that above. It may be noted that the range of variation on the mean of year is unusually large, the maximum deflection early in December being + 10.'2 while the opposite extreme about the middle of August is - 10.'0. The computed and observed values are shown graphically to scale in figure 20. The following summary of variations on the mean yearly value will serve further to indicate the agreement between the observed (O) and computed (C) quantities, easterly deviations being denoted by a plus sign, and vice versa:

Month	0	С	0-C	Month	0	C .	o-c
June	- 4.8	6.8	+2.0	December		+9·7	
July	—10.1	— 8.6	-1.5	January	+8.1	+7.0	+1.1
August	<del> 9</del> .9	10.0	+0.1	February	+5.3	+5.4	o. I
September	- 5.4	- 6.8	+1.4	March	+3.3	+3.9	o.6
October	o.7	+ r.8	-2.5	April	+1.2	—о. 1	+1.3
November	+11.7	+ 9.0	+2.7	May	-6.3	4.4	-1.9

<sup>\*</sup>The probable error of a single representation is  $\pm$  0./33.



ANNUAL VARIATION IN MAGNETIC DECLINATION AT TEPLITZ BAY (Increasing ordinates up denote increasing east declination. The observed means are shown by circles joined by broken line; the computed values are shown by the continuous curve.)

#### INCLINATION

#### INSTRUMENT AND METHODS

Observations for dip were made, as already stated, with the United States Coast and Geodetic Survey Cassela dip circle No. 5676. For the various standardization observations before and after the work of the Expedition see pages 11 and 12. The instrument was mounted in the observing hut on pier D (figure 2) September 28, 1903. Except for observation and cleaning and use at the Italian magnetic station on June 6, 20, and 27, 1904, it remained undisturbed. On the last three occasions it was returned to its pier immediately after the completion of the observations.

During the winter the needles were turned on the agates by means of wooden pliers. Proximity of the hand produced condensation which froze on the needles; this appeared, though slight, even while the blades were being rubbed with several thicknesses of tissue paper. Ice crystals continually formed on the instrument, and the frosted roof contributed a constant downpour of fine particles. A linen hood, conical in shape, was suspended from the roof and covered the instrument and top of pier D when not in use. About December 22 a paper hood was substituted with better success.

The bar magnets and four needles were kept outside of the observatory in a canvas-covered box, which is shown on the plat as magnet box No. 1. This box was secured to a post about 1.5 meter from the ground and could be used as a table or shelf on which the needles were magnetized in good weather. During the winter, when light and weather were both unfavorable, the needles were magnetized in the west end of the observatory. The bar magnets were returned immediately after the operation to magnet box No. 1.

On October 5, before commencing observations, needle 3 was observed upon, while declination magnet No. 4 was reversed several times at its stowing place. Needle 3 was kept oscillating in the magnetic meridian. The same operation was repeated on two subsequent occasions during the winter. On June 7 the same observation was again made, and also with the needle in the magnetic prime vertical. In all these observations no effect was detected on the oscillating dip needle.

A small adjusting pin was kept in a vertical hole on pier D. As it was necessary to use this pin to unloosen the stops on the horizontal circle before observing, the fact of its removal before each day's work is not noted. During the dip observations it was placed on top of the east window (south end). The needle not being observed upon was kept on the north end of the east plate of the observatory.

Time was noted by watch P, which was always hung on the middle stud of the south wall of the hut. On one occasion, November 30, chronometer Negus 1809 was used and was placed at foot of pier M against the north side.

Observations were made after the order prescribed for use in the field operations of the United States Coast and Geodetic Survey. This observing scheme is indicated by the following specimen set taken at random from the Teplitz Bay series:

Station: Teplitz Bay

Date: January 18, 1904

Observer: W. J. P. Needle No. 3

Dip circle No. 5676

End of needle marked A down

Circle	east	Circle	west	Circle	west	Circle east		
Needle fa	ace east	Needle f	ace west	Needle f	ace east	Needle fa	ace west	
s	N	s	N	s	N	s	N	
° ′ 82 53	° ′ 82 55	° ′ 83 21	° ′ 83 10	83 27	° ′ 83 26	° ′ 83 13	83 15	
52	55	15	10	23	19	11	13	
82 52.5	82 55.0	83 18.0	83 10.0	83 25.0	83 22.5	83 12.0	83 14.0	
82° 5	3.′75	83°	14.′0	83° 2	3.′75	83° 1	<b>3.</b> ′o	
	83° o	3.88			83° 1	8./38		

Mean: 83° 11./13

Polarities reversed: end of needle marked B down

Circle	Circle east Circle west			Circle	west	Circle east		
Needle f	ace east	Needle fa	ice west	Needle fa	Needle face east Needle		face west	
s	N	s	N	s	N	s	N	
83 28	° ′ 83 <b>29</b>	° ′ 83 11	° ′ 83 07	83 27	° ′ 83 23	° ′ 83 03	° ′ 83 00	
35	. 35	03	03	27	23	02	00	
83 31.5	83 32.0	83 07.0	83 05.0	83 27.0	83 23.0	83 02.5	83 00.0	
83° 3	1.'75	83° (	06./0	83° 2	25./0	83° o	1./25	
	83° 1	8./88			83° 1	3./12		

Mean: 83° 16.10

Resulting dip: 83° 13./6

h m Circle in mag. prime vertical Chron. time of beginning ..... 14 58 Chron. time of ending..... 15 45 Circle N. Needle S end..... 25 24 Needle N end..... Mean chronometer time..... 15 22 25 58 Chron. correction on L. M. T.... + 02 Circle S. Needle N end...... 22 23 Needle Send...... 23 31 Local mean time..... 15 24 Mean.... 24 19 Magnetic meridian reads...... 24° 19'

When observing with two needles the observations with first polarity of the first needle were immediately followed by the complete determination with the second needle (polarities of both needles being reversed at the same time), after which observations with the second polarity of the first needle were made. By this arrangement the final means from each needle correspond to practically the same epoch of time. As will be noted from the above specimen, two settings were made on each end of the needle in every position except in those cases where these differed by ten minutes or more of arc, when an additional observation was made and the mean of the three readings taken.

#### RESULTS

Only the final results for each needle and their means are shown in the tabulation following, the mean values being adopted without correction (see page 12). The time is the mean of the times noted at beginning and end, and is expressed in local mean time, reckoned from midnight throughout the twenty-four hours. The observer is indicated by the initials (see page 17).

Tabular summary of observations of magnetic inclination at Teplitz Bay

					-	
Date	L. M. T.	Needle 3	Needle 4	Mean	Observer	Remarks
1903 Oct. 5	h m 16 28	° / 83 16.4 N	° / 83 17.3 N	° / 83 16.8 N	W. J. P.	
12	11 18	36.6	28.3	32.4	Do.	Magnetic meridian as deter- mined October 5.
19	15 24	o8.8	10.2	09.5	Do.	mined October 5.
29	12 34	10.6	08.4	09.5	Do.	
30	15 27	11.1	12.7	11.9	Do.	
Nov. 20	17 02	13.6	08.7	11.2	Do.	
30	19 52	15.9	10.8	13.4	Do.	
Dec. 3	15 06	10.7	12.6	11.6	Do.	•
4	10 10	14.4	14.4	14.4	Do.	
7	14 30	09.9	11.8	10.8	Do.	Corrected for observation is magnetic azimuth 1°.
19	10 36	11.5	22.6	17.0	Do.	magnetic azimuth 1
21	14 59	16.2	18.8	17.5	Do.	1
25	II 22	09.8	13.2	11.5	Do.	1
26	8 30	13.7	12.8	13.2	Do.	,
1904						
Jan. 5	9 32	11.3	13.0	12.2	Do.	
9	9 50	10.5	18.2	14.4	Do.	
14	14 34	08.3	05.4	06.8	Do.	Aurora in north of large extended but not brilliant.
15	9 42	12.4	08.0	10.2	Do.	
18	15 24	13.6	13.0	13.3	Do.	
19	IO OI	12.4	09.6	11.0	Do.	
25	14 11	12.2	13.5	12.8	Do.	
26	10 02	12.6	10.0	11.3	Do.	

Tabular summary of observations of magnetic inclination at Teplitz Bay-Continued

Date	L. M. T.	Needle 3	Needle 4	Mean	Observer	Remarks
1904	h m	0 /	0 /	0 /		
Feb. 1	14 32	11.2	17.5	14.4	Do.	
2	10 32	12.9	o8.4	10.6	Do.	,
8	14 18	o8.6	10.4	c <b>9.5</b>	Do.	
15	20 10	12.4	04.2	08.3	R. R. T.	
22	16 12	10.6	08.9	09.8	W. J. P.	
24	20 44 <sup>8</sup>	19.6	13.7ª	16.6	R. R. T.	
29	15 04ª	10.5ª	07.0ª	o8.8ª	Do.	Revolver not taken to hut.
Mar. 1	10 30	09.1	10.7	09.9	Do.	Do.
18	11 06	16.7	12.2	14.4	Do.	Revolver removed.
19	16 32	71.0	17.9	14.4	Do.	Do.
24	7 41	12.2	09.4	10.8	Do.	Do.
28	15 08	83 14.8 N	83 13.2 N	83 14.0 N	R. R. T.	Do.
29	9 52	15.1	12.6	13.8	W. J. P.	Do.
April 1	10 48	16.7	14.4	15.6	R. R. T.	Do.
4	14 20	11.3	10.9	11.1	W. J. P.	Do.
5	9 54	13.2	14.4	13.8	Do.	Do.
11	15 29	05.7	14.2	10.0	Do.	Do.
12	9 58	16.3	14.7	15.5	Do.	Do.
18	14 46	15.4	83 15.9	83 15.6	Do.	Revolver left in usual place ovenight.
19	9 44	01.5	82 55.5	82 58.5	Do.	Revolver removed.
25	14 20	17.6	83 15.5	83 16.6	Do.	Do.
26	9 20	11.0	12.8	11.9	Do.	Do.
May 2	·14 o6	06.7	10.7	08.7	Do.	Revolver permanently removed
3	9 16	09.5	12.8	11.2	Do.	
9	15 12	08.9	16.6	12.8	Do.	
10	9 58	12.6	19.2	15.9	Do.	
16	15 04	10.6	08.4	09.5	Do.	
17	10 00	13.2	15.1	14.2	Do.	
23	15 31	07.5	10.5	09.0	Do.	
24	IO 20	11.8	14.6	13.2	Do.	
30	15 12	o8.6	06.9	07.8	Do.	
31	10 00	14.4	15.0	14.7	Do.	

Needles No. 1 and No. 2.

Tabular summary of observations of magnetic indications at Teplitz Bay-Continued

Date	L. M. T.	Needle 3	Needle 4	Mean	Observer	Remarks
1904	h m	0 /	0 /	6 /	·	
June 6	15 24*	01.3*	03.5*	02.4*	Do.	See foot-note.
6	15 22	17.3	12.0	14.6	Do.	
7	10 04	13.4	14.5	14.0	Do.	
13	15 30	14.0	11.5	12.8	Do.	
14	9 46	15.2	14.8	15.0	Do.	
20	15 30*	or. <b>9*</b>	04.7*	03.3*	Do.	
20	15 28	09.6	12.0	10.8	Do.	
21	10 03*	11.2*	08.1*	09.6*	Do.	
21	9 53	12.0	18.0	15.0	Do.	
27	16 18*	09.8*	19.4*	14.6*	Do.	
27	16 18	18.2	20.4	19.3	Do.	

<sup>\*</sup> These observations were made at Italian station.

NOTE.—When the observations of June 20 at the Italian station were being made an iron bolt was found at the foot of the pier; needle was not affected while it was being removed, but probably the observations of June 6 are vitiated.

The following monthly mean values for magnetic dip result from these observations:

	No. obs'ns	Dip	by	Resulting mean dip	
Epoch	each needle	Needle No. 3	Needle No. 4		
		0 /	0 /	0 /	
1903.80	5	83 16.70 N	83 15.38 N	83 16.0 N	
1903.80	4ª	11.72	12.15	11.9	
1903.90	2	14.75	09.75	12.3	
1903.95	7	12.31	15.17	13.7	
1904.04	8	11.66	11.34	11.5	
1904.12	7 <sup>b</sup>	12,26 <sup>b</sup>	10.02	II.IÞ	
1904.22	6	13.15	12.67	12.9	
1904.28	9	12.08	12.03	12.1	
1904.37	. 10	10.48	12.98	11.7	
1904.46	7	14.24	14.74	14.5	
1904.40	1	-7-7	1.74		

Omitting October 12, 1903. Including two values, needles No. 1 and No. 2.

In adopting a mean value from this summary it has been deemed best to reject the observations of October 12, 1903, as probably defective, owing to improper setting for the magnetic meridian. From the remaining sixty sets of observations with two needles each the resulting inclination at Teplitz Bay is—

#### SECULAR CHANGE IN MAGNETIC INCLINATION

Observations were made for inclination, as noted in the tabulation of dip results, at the Italian magnetic station of 1899 and 1900. In order to have the resulting values apply to the same mean time at both stations observations were first made at the Italian station with one polarity of the marked end of each needle; the instrument was then transferred to pier D in the observing hut, where complete sets with each needle were made, and finally the comparison was completed by observing with second polarity of the marked end of each needle at the Italian station. Assuming a linear change in diurnal variation over the period of observation, the mean results at the two stations are directly comparable. The mean resulting difference in magnetic dip between the two locations is 7.'3 as adopted from the following tabulation of the comparisons:

	Date	Local mean time	Mean dip observed at Italian station	Local mean time	Mean dip observed at Ziegler station	Δ I Zieg- ler station to Italian station	Weight
-	1904 June 6	- h m 15 24	83 02.4 N	h m 15 22	° ′ 83 14.6 N		I
	June 20	15 30	03.3	15 28	10.8	7.5	2
	June 27	16 18	14.6	16 18	19.3	<b>—</b> 4.7	2
	When	ce weighte	ed difference a	dopted		— 7·3	

The comparison of June 6 is given weight of one against two for each of the other comparisons by reason of the observer's note regarding discovery of iron bolt at foot of pier on June 20. There being no reason to assume any change in local magnetic conditions at so isolated and unfrequented a locality, we may assume the same difference at the time of the Italian Expedition.

Commander Cagni's observations resulted as follows:\*

Date				Number of de- terminations	Mean observed inclination
August 21, 22, 1899				4	83° 25.'o N
July 10, 16, 17, 23, 1900.				9	83 01.2

whence the mean value 83° 13.'I N for the epoch 1900.09. Referred to the Ziegler Polar Expedition station, this becomes 83° 13.'I + 7.'3 = 83° 20.'4. The value for the epoch 1904.13, as above, is 83° 12.'4 N. Both of these series are uncorrected for diurnal variation. Each, however, consists of observations made at various parts of the day, so that the means may be assumed as applying practically to mean of day at their respective epochs. Thus in four years the northerly magnetic inclination in the region of Teplitz Bay has decreased 8'. Hence the rate of change in magnetic inclination due to secular variation, assuming this effect to be a linear function during the elapsed interval, is

This value is, while of the same sign, considerably smaller than that taken by Professor Palazzo as a result of his discussion of Commander Cagni's observations, viz., — 24'. He, however, considers this determination as not very reliable, owing to the short period between the inclination observations, and also the great variation between the individual values obtained.

<sup>\*</sup>Osservazioni scientifiche esequite durante la spedizione Polare di S. A. R. Luigi Amedeo di Savoia, Duca degli Abruzzi, 1899–1900. Milan, 1903. Pp. 462-475. (Relazione sulle osservazioni magnetiche fatta dal Professore Luigi Palazzo.)

The annual rate above deduced is further confirmed by the fact that it is of practically the same order as values obtained at other Arctic stations. Thus, for example, for Cape Thordsen and Mossel Bay, Spitzbergen, Dr. Solander\* has deduced the annual rates of *increase* in magnetic inclination as 0.'4 and 0.'8 for the periods 1883.2 to 1899.7 and 1873.5 to 1899.7 respectively.

## HORIZONTAL INTENSITY

## INSTRUMENT, METHODS, AND RESULTS

Observations for horizontal intensity were made, as already stated, with magnetometer No. IIII loaned by the United States Coast and Geodetic Survey. For the various standardization observations with this instrument before and after the work of the expedition, as also for the constants and methods of reduction used, see pages 6 to 11. Determinations were made generally on Monday afternoons and Tuesday mornings, but it was not possible before the advent of daylight to adhere strictly to this program. In these observations for intensity the time of a set of fifty oscillations was observed in the usual manner before and after deflection observations. Sometimes these were repeated; at other times the final set of oscillations was lost, owing to the failure to transit of the selected scale division.

The fortieth division, being near the middle of the scale, was the one whose transit was chosen. The initial amplitude of the oscillation was usually made about one degree in order to increase the probability of the transit of the fiftieth oscillation. The amplitude of swing was noted at the beginning and end, in scale divisions, but is not published for lack of space. The time was noted by mean time chronometer Negus No. 1809, which was carried to the observatory for the purpose. It was always placed at the foot and touching the north side of pier M (figure 2). This chronometer was compared daily with the sidereal chronometer Negus No. 1769, which was used in the astronomic observations. Determinations of the torsional effect of the four suspension fibers were made before the first and after the last oscillation sets. The temperature was noted at the beginning, middle, and end by a Centigrade thermometer, the bulb of which projected into the magnet-house of the magnetometer. This same thermometer was used in the deflection observations, readings being taken before and after each set.

Magnet No. 2 was suspended during deflection observations. A solid brass bar with a carrier supported magnet No. 4 at thirty and forty centimeters from the center. Eight settings were made and the time and temperature noted as usual. Magnet No. 2 was kept in magnet box No. 2 outside of the hut (shown on plat) and was brought into the observatory immediately after preceding oscillation observations. From fifteen to thirty minutes elapsed before it was observed upon. After deflection, and before the subsequent oscillation observations, it was returned to magnet box No. 2.

The observation specimens, pages 314 and 315, which together yield an absolute value of the horizontal intensity, H, will serve to make clear the method of observation and computation. In the tabulation of results given below, each value of H is deduced from two or more such sets of oscillation and one set of deflection observations made in the order stated above.

By the aid of the specimens the accompanying tabulation of the condensed original notes may be readily interpreted. The times given are local mean reckoned from midnight through twenty-four hours. The mean deflection angles observed at thirty and forty centimeters are given in the two columns under heading u. The columns t and t' show the mean temperature readings for the deflection and oscillation observations respectively. The mean time of one oscillation corrected for the rate of chronometer appears under column headed T'. The effect of ninety degrees of torsion in the suspension is given in the column v. The column headed H gives the finally reduced values for horizontal intensity expressed in gammas, one gamma being 0.00001 C. G. S. unit. The resulting values of the magnetic moment of magnet No. 4 at t degrees and at twenty degrees Centigrade are shown in the last two columns respectively. Reference to pages 8 and 10 will serve to explain the remaining headings.

Station: Teplitz Bay

Date: March 19, 1904

Observer: R. R. T.

Instrument: Magnetometer IIII

Magnet: No. 4, inverted

Chronometer Negus 1809, daily rate gaining 2."37 on mean time

Oscillation number			Extreme readin		Time of 50 oscillations
0	h m s 7 35 49.8	- 14.7	d 59 3	d 23.0	
3	36 20.2				
6	50.8				
9	37 21.2				
12	51.2				
15	38 22.1	<b>– 14.7</b>	57.1	26.6	
50	44 15.0		56.3	31.0	m 5 8 25.2
53	48.2				28.0
56	45 15.4				24.6
59	48.9				27.7
62	46 16.2				25.0
65	50.3	— 14.7	55-3	33.2	28.2
Means	7 41.3	- 14.70	57.0	28.4	8 26.45

$$\text{Formulæ}: \ \mathbf{T}^2 = \mathbf{T}'^2 \left(\mathbf{I} + \frac{h}{f}\right) \left(\mathbf{I} - (t' - t) \, q \, \right) \left(\mathbf{I} + \mu \frac{\mathbf{H}}{m}\right); \ m \left(\mathbf{H} + \mathbf{X}\right)^{\dagger} = \frac{\pi^2 \mathbf{K}}{\mathbf{T}^2}$$

Coefficie	ent of to	rsion.	One div	= 1.757	7	Time of 1 oscil.	s 10.1290
Tors.	Sea	Scale Mean. Diff's L. M. L.				Corr'n for rate*	- 0.0003
o 19 109 289	d 40.8 30.4 50.9 40.6	d 39.8 29.6 48.7 39.2	d 40.30 30.00 49.80 39.90	d 10.30 19.80 9.90	oscillations $ \begin{array}{ccc} h & m \\ = & 11 & 29 \\ (t' - t) = \\ - & 0.^{\circ}75 \end{array} $	" [I - (t' - t) q]	2.01111 0.00126 0.00006
Remark	s:		o = 15.7	. m.			2.01280
	to L. l			" m(H+X)	1.43977		

<sup>\*</sup> Plus for losing rate and minus for gaining rate.

<sup>†</sup> See page 10.

## DEFLECTIONS WITH MAGNETOMETER No. IIII

Station: Tepitz Bay

Date: March 19, 1904

Observer: R. R. T.

Magnet No. 4 deflecting at right angles to magnet No. 2 suspended

		CIRCLE READINGS											
Magnet North end	end		I. Distance	r=30 cm	n.	II. Distance $r = 40$ cm.							
	North	No.	A	В	Mean	No.	A	В	Mean				
			0 /	,	,		0 /	,	,				
Hast	E	1	94 02.5	02.2	02.35	2	77 25.0	24.5	24.75				
H	w	4	37 01.5	01.5	01.50	3	54 05.2	04.5	04.85				
	2 14		5	7° 00./85			2	3° 19./90					
West	w	5	37 26.5	26.2	26.35	6	54 05.5	05.0	05.25				
W	E;	8	95 31.2	30.8	31.00	7	77 47.5	47.0	47.25				
	2 14		5	8° 04.′65			23° 42.′00						

Formulæ: 
$$\frac{H}{m} = \left[ \frac{2\left(1 + \frac{P}{r^3} + \cdot\right)}{r^3\left(1 + \frac{2\mu}{r^3}\right)} \right] \frac{1}{\sin u} = \frac{C}{\sin u}; \log H = \frac{1}{2} \left(\log \frac{H}{m} + \log m(H + X)\right) + 255 \gamma$$

	I	II	Set	ı	II	
()	0 /	0 /	log C	5.86924	5 40476	
u (mean)	57 32.75 28 46.4	23 30.95 11 45.5	" Sin u	9.68246	5.49476 9.30917	
	ļ		$\log \frac{H}{m}$	6.18678	6.18559	
_	8 45 T		$\log m \frac{(H+X)}{(H+X)}$	1.43960* 8.81319	1.43960 <sup>3</sup> 8.81260	
Ended at Mean	<del></del>	$t = -\frac{13.9}{13.95}$	Н	6759 γ	6750 <b>y</b>	
Chr. to L. M.	T. + 348.0		$\log m_{i}$	2.64345		
L. M. T	13 06.0		Reduction to 20°	0.00441		
Remarks: Revolver removed to magnet box			$\log m_{20} \qquad \qquad 2.63$		3904	
			$m_{20}$	435	5-55	

<sup>\*</sup> Mean from four sets oscillations before and after deflections: 1.43977, 1.43959, 1.43974, and 1.43930.

<sup>†</sup> See page 10.

Tabular summary of observations of magnetic horizontal intensity at Teplitz Bay

Date	e	Local mean			2	•		Centigrade temperature		e log	$\frac{H}{m}$
240	-	tin	ne	r=3	o cm.	r=4	ю <b>ст</b> .	t	ť	r = 30 cm.	r = 40  cm.
1903 October	3 12 22 29	_	m 31 59 07 04	° 28	65.0 13.6 29.4 26.9	0	56.4 40.6 36.8 35.1	- 1.80 + 8.00 - 1.55 - 4.50	+ 5.78 - 2.48	9387 9041	6.17872 8802 9059 9171
November	9 16 20	16 12	34 19 06 33	28	49.0 48.4 46.7 47.8	11	47·3 43·5 41.6 43·2	18.30 15.60 12.00 4.60	-16.88 -14.28	8636 8666	6.18461 8685 8791 8675
December	3 4 7 25	11 16 17 7	33 37 28 48 03 06	28	46.0 50.25 34.4 63.55 48.6 45.9	11	39.8 44.4 37.7 46.22 45.25 43.8	— 7.80 — 7.50 — 4.10 —12.60 —18.50 —14.25	$ \begin{array}{c cccc}  & -9.48 \\  & -4.83 \\  & -13.53 \\  & -19.93 \end{array} $	8 8574 8931 8282 8639	6.18891 8610 9010 8511 · 8585 8663
190 <b>January</b>	7 9 14 15 18 25	14 11 12 17 7	12 20 02 40	28	44.9 45.7 47.7 47.3 43.0 43.3 42.0 45.9		44.8 42.4 46.8 42.5 42.5 41.0 40.2 45.1	—12.15 —12.70 —22.40 —15.25 — 2.40 — 5.65 — 9.66	$ \begin{array}{c cccc}  & -12.92 \\  & -24.45 \\  & -16.82 \\  & -2.23 \\  & -6.36 \\  & -6.66 \end{array} $	8691 8669 8660 8728 8727 8727	6.18596 8745 8501 8745 8745 8713 8810 8861 8572
February	1 2 22 29	7	43 46	28	48,9 54.3 53.3 45.2	11	44.3 46.4 48.5 44.75	—13.95 —17.25 — 9.45 — 2.15	$\begin{array}{c c} & -21.11 \\ \hline -8.78 \end{array}$	8505	8513 8367 8574
March	1 18 19 24	. I5 I3 I2	57 06 16	28	42.7 41.3 46.4 57.0 45.8	111	47.9 47.0 45.5 42.0 42.7	4.55 22.80 13.95 17.30 5.25	-23.26 -13.6 -18.0	8818 8678 8443	6.18390 8490 8559 8780 8707
April	4 5 11 12 18 19 25	. 6	55 27 10 54 40 07	28	29.8 50.7 31.4 52.7 44.7 34.9 27.7 45.8	11	35.75 47.7 39.8 45.4 39.4 35.4 35.3 42.8	- 3.85 - 7.00 15.55 23.55 16.25 20.50 17.40	7.9 7.9 7.15.5 7.22.7 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7	8562 9029 5 8558 0 8724 8 8960 8 9108	6.19130 8408 8910 8589 8937 9193 9180 8731
May	2 3 9 10 17 23 24 30	7 . 16 . 6 . 16 . 7 . 17	38 38 42 35 08 00 49	28	25.9 64.9 33.66 40.2 38.2 71.4 24.7 46.2 29.1 58.5		34.6 43.1 39.3 38.0 39.7 51.3 35.3 41.6 36.6 47.1	—12.44 —14.36 — 6.36 — 8.26 — 8.00 — 5.22 — 4.21 — 0.96 — 4.95	$\begin{array}{c cccc}  & -12.6 \\  & -4.0 \\  & -6.0 \\  & -6.0 \\  & -7.3 \\  & -7.0 \\  & -7.0 \\  & -4.7 \\  & -4.7 \\  & -0.8 \\  & $	8256 4 8948 2 8802 2 8853 0 9159 6 8658 3 9046	6.19222 8706 8912 8998 8898 9161 8772 9070 8439
June	6	77 177 . 177	58 7 19 7 58 7 22 7 28	28	45.6 53.4 30.9 44.8 12.4 13.1 28.5	11	42.6 50.6 38.4 41.1 30.8 54.2 36.9	+ 5.0 + 6.6 + 2.1 + 0.2 + 9.9 + 8.2 + 9.8	$ \begin{array}{c cccc} 5 & + 9.4 \\ 5 & + 3.5 \\ 5 & + 1.2 \\ 0 & + 10.7 \\ 5 & + 11.1 \end{array} $	5 8466 2 8996 0 8680 2 9410 4 8014	6.18687 8198 8952 8791 9400 7978 9025
June	28*	. 0	42*	28	12.85	* 11	27.3*	+ 4.3	5* + 6.6	6.19413*	6. 19629 <sup>1</sup>

\*Observations at the Italian station of 1899 and 1900; the results

Tabular summary of observations of magnetic horizontal intensity at Teplitz Bay

					<del></del>		
	Effect 90°	log	log				
T'	torsion v	m(H+X)	$\sqrt{H(H+X)}$	H	$\log m_{\rm t}$	$\log m_{20}$	Observe
s				ν			
10.2304	25.72	1.43061	8.80554	γ 6646	2.64209	2.63926	W. J. P
1291	25.40	3905	1500	6786	4067	3911	Ďo.
1276	22.84	3941	1496	6786	4111	3831	Do.
1148	23.77	4033	1586	6799	4106	3788	Do.
TO TOWS	28.44	7 44040	8.81297	6256	2.64422	2.63925	Do.
10.1070 1164	25.03	1.44049	1331	6756 6761	2.64423 4341	3878	Do.
1424	26.29	3762	1245	6748	4190	3774	Do.
1382	22.42	3844	1246	6748	4270	3950	Do.
	22.62	- 46	0.01060	6==0	0.64767	2.63800	Do.
10.1467	22.62	1.43756	8.81269	6752	2.64161	3857	Do.
1562	23.33	3677 3804	1134	6731 6769	4216 4082	3768	Do.
1420 1637	24.13	3582	0989	6710	4276	3852	Do.
1112	27.54 25.94	4034	1323	6760	4383	3883	Do.
1651	25.34	3586	1132	6731	4131	3686	Do.
•							
10.1242	17.46	1.43992	8.81322	6760	2.64343	2.63925	Do.
1544	16.73	3755	1237	6747	4193	3768	Do.
1116	19.63	4071	1328	6760	4410	3859	Do
1176	16.42	4056	1379	6768	4344	3886	Do.
1436	12.35	3897	1309	6758	4262	397 I	Do.
1333	12.62	3967	1368	6767	4272	3947	Do.
1414	11.26	3912	1361	6765	4217	3884	Do.
1417	12.26	3881	1254	6749	4298	3913	Do.
10.1391	13.29	1.43896	8,81261	6750	2.64304	<b>2.6</b> 3863	Do.
1258	16.19	3966	1237	6747	4402	3918	Do.
1830	13.39	3548	0993	6710	4234	3851	Do.
1834	13.48	3544	1085	6724	4138	3850	R. R. 7
10.1423	13.93	1.43881	8.81223	6745	2.64333	2.64014	Do.
0776	13.93 22.88	4351	1502	6787	4514	3958	Do.
1322	15.40	3960	1289	6755	4345	3904	Do.
1245	16.96	4000	1306	6757	4363	3878	Do.
1224	16.31	4034	1361	6765	4339	4011	W. J.
10.0851	14.78	1.44388	8.81736	6822	2.64307	2.63997	Do.
1590	21.34	3678	1082	6724	4278	3927	Do.
0809	15.76	4391	168o	6813	4364	3902	Do.
<b>0</b> 956	17.63	4251	1412	6773	4504	3938 3899	Do.
1002	15.64	4243	1537	6792	4370		Do.
0404	18.78	4719	1896	6846	4468	3942	Do.
0672	15.30	4521	1832	6836	4336	3908	Do. Do.
0974	18.94	4224	1470	6782	4420	3934	<i>D</i> 0.
10.0530	16.66	1.44635	8.81910	6848	2.64370	2.63949	Do.
1374	18.34	3904	1192	<b>6</b> 740	4385	3949	Do.
0831	16.69	4379	1655	6810	4385	4071	Do.
1126	17.49	4118	1509	6788	4274	3932	Do.
0946	17.22	4279	1577	6798	4362	3995	Do.
1518	17.36	3789	0966	6707	4510	4146	Do.
0506	19.27	4645	1902	6847	4390	4062	Do.
1469	18.13	3814	1264	6751 6877	4222	3907	Do. Do.
0855	20.33	4348	1703	6817 6731	4301 4400	4029 4076	Do. Do.
,1413	20.97	3857				_	
10.1318	17.70	1.43976	8.81322	6760 66#8	2.64327	2.64133	Do.
2220	18.04	3216	0774	6678	4133	3959	Do.
0900	17.90	4328	1651	6809	4334	4102	Do. Do.
1156	18.76	4095	1416	6774 6860	4349	4092	Do.
0499	17.14	4683	2044	686 <u>9</u> 6676	4284 4456	4153	Do.
1871 1358	17.41 16.94	3521 3945	0758 1487	6784	4120	4303 3987	Do
-330	17.57*	1.43793*	8.81657*	6810*	2.63794*	2.63591*	Do
10.1540*							

are for two complete sets each of deflections and oscillations.

The following monthly mean values for the logarithm of the magnetic moment of magnet No. 4 at 20° Centigrade  $(m_{20})$  and for magnetic horizontal intensity (H) result from these observations:

Danah	Number	Resulting mean values			
Epoch	determi- nations	log m <sub>20</sub>	Н		
1903.81	4	2.63864	γ 6754		
1903.88	4	3882	53		
1903.95	6	3808	42		
1904.04	8	3894	59		
1904.12	4	3870	33		
1904.21	5	3953	62		
1904.29	8	3931	98		
1904.37	10	4012	84		
1904.46	7	4104	64		

The above mean values of H, each being made up of determinations made at different times on the days of observation, may be taken practically as applying to mean of day. As will be noted, the difference between the extreme values is but sixty-five gammas, which, considering the frequent and rapid fluctuations of this element in high latitudes, is quite satisfactory. From the fifty-six determinations as grouped together in the above tabulation the resulting horizontal intensity at Teplitz Bay is

#### 6768 $\gamma$ for epoch 1904.16.

# SECULAR CHANGE IN MAGNETIC HORIZONTAL INTENSITY

Observations were made for horizontal intensity, as noted in the tabulation of results, at the magnetic station of the Italian Expedition of 1899 and 1900. Unfortunately opportunity was afforded only upon this one occasion for observation there. The value obtained seems somewhat unsatisfactory in view of the unusually low value of the magnetic moment of magnet No. 4 resulting. A close inspection of the observational data does not, however, disclose any irregularities of greater amount than the similar work at the hut indicates should be expected in this region. It is furthermore confirmed in that the result given is derived from two sets of deflection as well as oscillation observations.

For the purpose of reduction to mean of day a mean curve for diurnal variation in magnetic horizontal intensity was deduced from the International Observations of 1882 to 1883 at the stations Ssgastyr, Siberia; Cape Thordsen, Spitzbergen; Jan Mayen Island; Karmakul Bay, Novaia Zemlia, and Bossekop, Norway. Applying diurnal variation corrections so obtained, the determination at the Italian station on June 28, 1904, becomes  $6810 \gamma + 50 \gamma = 6860 \gamma$ . The nearest corresponding observation at the Ziegler Expedition station in point of time (being but four hours before) is that of the preceding date; reduced for diurnal variation, the resulting value is  $6784 \gamma + 8 \gamma = 6792 \gamma$ . From these two determinations it appears that the horizontal intensity at the Ziegler Expedition station is about  $68 \gamma$  smaller than at the Italian station.

Inasmuch as Commander Cagni's observations were, with but one exception, made during afternoon hours, his values have also been reduced approximately to mean of day by the same diurnal variation curve (the corrections given are mean values over periods of observation). These results are as follows, the observed quantities being taken from Professor Palazzo's discussion:\*

Date	No. of determi- nations	Local mean time	Mean observed value	Correction diurnal variation	Reduced mean value	Resulting mean H
1899 August 29 August 30		h m h m 14 31 - 17 30 14 46 - 18 02	γ 6842 6848	γ — 41 — 41	γ 6801 6807	7 6805
July 13  July 14  July 24  July 25  August 3	4 8 1 8	17 07 - 17 31 15 41 - 18 35 9 08 - 12 30 15 37 - 16 01 15 10 - 18 35 15 23 - 18 30 14 40 - 18 09	6895 6892 6835 6876 6831 6881	- 42 - 41 - 6 - 43 - 39 - 39 - 40	6853 6851 6829 6833 6792 6842	6823

The resulting mean values of  $6805\gamma$  and  $6823\gamma$  correspond to mean of day for the epochs 1899.66 and 1900.55 respectively. From these the magnetic horizontal intensity at the Italian station for the epoch 1900.10 is  $6814\gamma$ . Referred to the Ziegler Expedition station, this becomes  $6814\gamma - 68\gamma = 6746\gamma$ . At the latter location the value derived was  $6768\gamma$  for the epoch 1904.16. Hence the horizontal intensity of the earth's magnetic field has, in the region of Teplitz Bay, in a period of four years *increased* 22 $\gamma$  (0.00022 C. G. S.). Hence, assuming a linear change during the elapsed interval, the rate of change in magnetic horizontal intensity due to secular variation is

## +67 (0.00006 C. G. S.) per year.

This rate of increase confirms that adopted by Professor Palazzo in his discussion above referred to, namely,  $+9 \gamma$ . At the stations Mossel Bay ( $\varphi = 79^{\circ} 53' \text{ N}$ ;  $\lambda = 16^{\circ} 04' \text{ E}$ ) and Cape Thordsen ( $\varphi = 78^{\circ} 28' \text{ N}$ ;  $\lambda = 15^{\circ} 42' \text{ E}$ ) for the periods 1873.5 to 1899.7 and 1883.2 to 1899.7 Dr. Solander† has deduced the annual rates — 10  $\gamma$  and — 3  $\gamma$  respectively.

<sup>\*</sup>Osservazioni scientifiche esequite durante la spedizione Polare di S. A. R. Luigi Amedeo di Savoia, Duca degli Abruzzi, 1899-1900. Milan, 1903. Pp. 475-500. (Relazione sulle osservazioni magnetiche fatta dal Professore Luigi Palazzo.)

<sup>†</sup>See reference, page 305.

# SUMMARY SHOWING VALUES OF THE MAGNETIC ELEMENTS AND THEIR SECULAR VARIATIONS AT TEPLITZ BAY

The following summarizes the mean results obtained by the expedition at the Teplitz Bay station. In the case of the declination the value applies to the mean of both day and year; this may be said to be practically the case likewise for the inclination and intensity.

## A-Declination

Epoch	Easterly declination	Annual rate of secular change 1900–1904		
1904.00	° ', 22 38.5	+ 7½		

## B—Inclination

Epoch	Northerly inclination	Annual rate of secular change 1900–1904
	0 /	,
1904.13	83 12.4	- 2

## C-Intensity

Epoch	Horizontal component	Vertical component Z	Total intensity F	Annual rate of secular change 1900–1904			
				Н	Z	F	
1904.16	γ 6768	γ 56806	γ 57208	γ + 6	γ —238	γ 235	

Latitude of the station is 81 47.5 N. Longitude of the station is 58 09 E.

### OBSERVATIONS AT ALGER ISLAND

### SITE AND OBSERVATORY

The stay at Alger Island (Camp Ziegler) being of uncertain duration, dependent upon the arrival of the relief expedition, the observing quarters were of less permanent character than those at Teplitz Bay. The site of the magnetic station is, as shown in figure 21, some 289.5 meters due north of the astronomic pier. To test for local disturbance observations were made at four points to the magnetic north, east, west, and south, respectively, and each distant about 91 meters from the site proposed. These gave indications of local magnetic attraction, in the maximum, about 30'. Apparently, therefore, the local conditions are more uniform than is the case at the Teplitz Bay site. The construction and dimensions of the observatory are shown in detail by the plan and sections of figure 22. The construction proved very serviceable despite its temporary character. The central pier is of coniferous drift-wood about 20 centimeters in diameter, 1.75 meter long, and is sunk some 0.4 meter in frozen gravel, thus leaving a clear height of about 1.3 meter. Towards the close of the work a second and similar pier was erected, as shown in the figure, the intention being to mount the dip circle on the same. No use was, however, made of it, the central pier serving for all of the observations. Great care was exercised that no magnetic material was used in building the observatory. The pier will undoubtedly remain in good condition for a long time, so that the station may be reoccupied if future opportunity offers.

The geographical position of this station is latitude 81° 21′ 30″ N and longitude 3<sup>h</sup> 44<sup>m</sup> 22<sup>s</sup> (56° 05.′5) E.

#### DECLINATION

#### METHODS

The methods of observation and record were substantially the same as for the Teplitz Bay series. The regular declination work was begun June 26, 1905, and continued, so far as possible, in accordance with the program of observation outlined on page 17, until July 1, 1905.

The azimuth mark used was the south astronomic meridian mark, distant about 3,910 meters. From sun observations with the Repsold circle at the astronomic station on July 16, 19, 20, 26, and 28, 1905, on which days ten determinations were made (see astronomic notes), the azimuth of this mark as referred to the magnetic station pier is 359° 59.'27.

So far as this short series of observations goes there is no very decided evidence of pier twist with changes in temperature, as was the case for the Teplitz Bay series.

The observers are indicated by their initials as per list on page 17.

As for the later observations at Teplitz Bay a suspension of four fibers was used (see page 19).

The following values for axis are used in the final reductions (see page 18):

Week ending at 8 A. M. Sunday	Number of determinations	Mean axis value d
July 2, 1905	9	<i>a</i> 53⋅54
July 9, 1905	7	53.62
July 16, 1905	8	53.10
July 23, 1905	8	53.13
July 30, 1905	8	53.50

### RECORDS

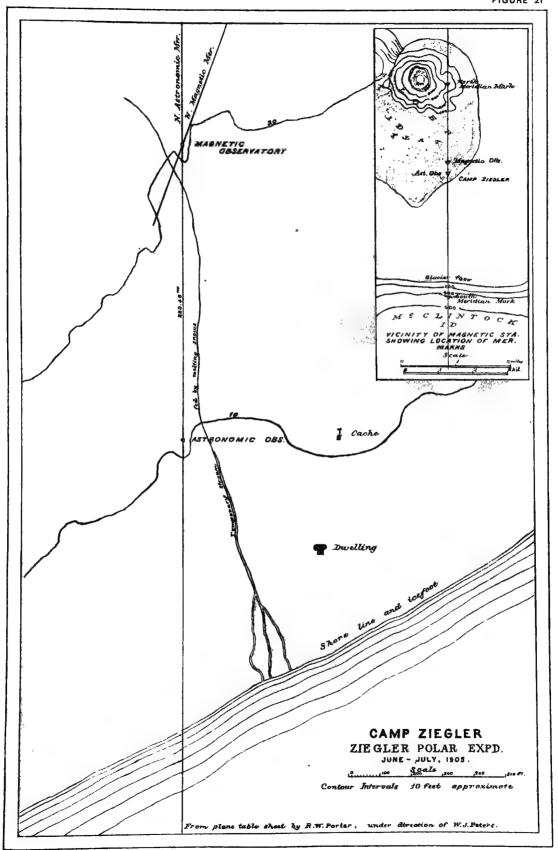
The original notes and results have been tabulated in the same manner as the Teplitz Bay series (see pages 19 and 20). The readings of azimuth mark will be found on page 322. The readings corresponding to the position of the telescope appear under the heading, Circle reading of magnet. Where the telescope with circle has been shifted during declination observations this fact has been denoted in the table of resulting declinations by an asterisk at the time of

observation first following the change; in these cases the values are omitted in table on page 322 and tabulated separately on page 323. In the various tabulations the values enclosed in parentheses are interpolated, these being cases where conditions prevented observation of the corresponding quantities.

TABULATIONS OF RECORDS

Circles readings of azimuth mark, magnet, and true south at Alger Island

Pointing	Date	Azimuth mark	Circle reading of magnet	Circle reading true south
	1905	0 /	0 /	0 /
В А	June 26	59 38.8	80 18.1	59 39.5
В А	27	59 37.7	79 55.9	59 38.4
В	28	59 37.2	80 27.0	59 38. <b>o</b>
В А	29	59 36.4	79 10.0	59 37.2
В	30	<b>5</b> 9 35.5	•••••	59 36.2
в	July 2	59 36.8	******	59 37.6
	3	(59 37.0)	80 16.9	(59 37.7)
В	4	59 37.2	80 17.6	59 37-9
В	5	59 37.0		59 37.7
в	6	59 37.9		59 38.6
A	7	59 36.3		59 37.1
в а	8	59 36.5	••••	59 37.2
A	10	59 35.8	80 32.9	59 36.6
в А	11	59 35.2	79 37.0	59 35-9
В А	12	59 35.6	• • • • • • • • • • • • • • • • • • • •	59 36.4
В А	14	59 37.0	79 11.9	59 37.7
в а	16	59 36.2		59 36.9
в а	17	59 36.4		59 37.1
в а	18	59 36.0	80 00.0	59 36.7
в а	19	59 36.3		59 37.1
в А	20	59 37-3	79 <b>50</b> .6	59 38.0
	21	(59 38.1)	79 57.0	(59 38.8)
A	23	59 38.8	• • • • • • •	59 39.6
В А	24	59 38.9		59 39.6
В А	25	59 38.0	79 10.8	59 38.7
В	26	59 38.8		59 39.6
в А	27	59 38.5	79 44.6	59 39.2
В	28	59 38.8	80 03.8	59 39.6
	30	(59 38.8)		(59 39.6)



Circle readings of magnet for days on which circle was shifted at Alger Island

Date .		r'r ne	Circle reading of magnet	Date		ır'r ne	Circle reading of magnet	Date	Ch tit	r'r ne	Circle reading of magnet
7005	h	***	0 /	1905	h	m	0 /	1905	h	m	0 /
1905 <b>June 3</b> 0	20	m 00	79 58.0	July 8		44	82 35.2	July 23	I	38	81 17.0
June 30	21	44	78 33.0	july 0	3	54	81 08.2	1417 23	Ī	40	82 38.0
	21	52	79 31.8		4	04	81 03.0		ī	47	83 50.5
	22	20	80 56.7		4	30	81 58.0		I	50	82 14.0
	22	22	79 39.9		4	38	82 52.0	·	I	52	81 35.0
	İ		,, ,, ,		4	40	81 45.8		I	54	80 04.0
July 2	0	00	80 12.1		5	00	80 52.8		2	06	83 01.8
, ,	3	08	80 50.8		5	08	81 44.9		2	08	82 08.5
	4	10	80 00.5		5	28	80 39.0		2	22	80 01.9
	6	54	80 48.0		6	08	79 53.0		2	24	80 51.7
5	0	OI	79 43.9		6	40	80 51.0		2	54	81 27.0
_	4	52	80 37.0	1	6	52	81 47.2		3	58	81 58.8
	5	30	81 32.0		7	10	80 49.8	i	4	04	81 23.0
	5	40	82 27.8		7	46	79 57.9		6	00	82 39.5
	5	56	83 17.0	}	7	58	81 05.2	,	6	16	81 33.8
	6	16	82 26.3	12	0	00	80 12.2		7	02	80 46.8
	6	38	81 09.9		3	14	81 11.9	24	8	00	80 52.5
	7	08	80 12.2		9	26	80 15.8		9	00	79 32.0
	14	12	79 22.0		16	34	79 27.2		9	02	79 54.1
	20	42	80 28.3		17	58	80 30.7		9	04	80 48.5
	20	54	79 42.7	16	20	20	79 31.3		9	16	79 40.2
	21	04	79 21.8	10	0	03	79 45.8		9	20 26	80 32.0 80 16.5
	23	42	79 28.9		I	58 56	80 25.0 81 03.1		9	28	79 58.8
$\epsilon$	23	52 00	80 01.0 79 17.3		3		80 04.2		9	32	81 08.0
	17	02	79 17.3	17	5 8	54 00	80 27.0		9	46	80 25.8
	17	28	79 43.0		11	42	79 43.0	11	10	02	81 14.2
	17	30	78 36.5	19	0	00	79 36.8		10	18	80 45.0
	17	40	77 36.8	-9	0	44	80 30.7		10	22	80 06.0
	18	08	78 34.9	ļļ	0	56	81 37.2		10	26	80 48.8
	19	10	79 38.6		I	00	80 21.7		10	40	81 19.5
	19	54	78 25.3		II	46	79 21.0		10	48	81 43.0
	20	00	79 19.8		23	44	80 12.8	11	10	52	81 53.5
7	1	00	79 56.5	23	o	00	80 13.3		11	18	82 34.2
,	21	42	79 58.2		0	46	81 41.9		11	42	82 21.8
	21	44	78 14.8		0	50	80 09.0		II	44	81 14.5
	22	24	79 08.5		I	10	82 16.8	26	0	00	81 30.2
	22				I	12	83 00.2	11	0	18	80 33.8
	23		79 24.1		I	16	81 50.5	i	3	26	81 35.2
8			80 33.5	<u> </u>	I	18	80 51.5	1	4	26	80 46.1
	2	50	81 40.0		I	20	82 38.0	30	0	00	79 45.3
	3	_	80 50.2		I	22	81 26.0	H	2	46	80 24.7
	3		81 55.9		I	36	82 28.0		3	54	80 49.8

### Notes Accompanying Declination Observations at Alger Island

June, 1905.—26, cloudy.—27, light west wind, sky clear except in west; 27:14:24.5, scale increases to 76<sup>d</sup>.1.—28:01:28, scale increases to 50<sup>d</sup>.8.—29, calm and clear to cloudy at end; 29:16:52, scale decreases to 35<sup>d</sup>.0, where it remains quiescent for several seconds.—30, calm; 30:21:12, scale decreases to 21<sup>d</sup>.3, increases to 22<sup>d</sup>.6, decreases to 21<sup>d</sup>.5; 30:22:04, magnet checked with adjusting pin; 30:22:12, scale increases to 41<sup>d</sup>.0 and returns to reading at 22:12.

July, 1905.—2, west wind, clouds and fog; 2:03:06, reading 79<sup>d</sup>.o estimated; 2:06:48, one oscillation, then decreases.—3, southwest wind with low clouds and fog.—4, calm, cloudy; 4:03:15, wind rising.—5, west-southwest wind, drifting snow; 5:01:54, magnet oscillating vertically; 5: 02: 30, vertical oscillations of magnet have ceased; 5: 03: 00, heavy southwest wind; 5:06:56, wind continues with drifting snow and rain; 5:07:10.3, magnet checked with adjusting pin; 5:14:44, wind increasing in velocity, drifting snow and sand; 5:19:04, high south wind; 5: 20: 48.3, magnet checked with adjusting pin; 5: 23: 40, scale decreases to od, returns to 14d, o, then decreases.—6, calm, cloudy, light rain.—7, light wind, foggy and cloudy, sun shining at end; 7:21:46, magnet checked with adjusting pin; 7:21:48, scale increasing rapidly without oscillation; 7:21:54, scale has remained at this reading for about one half minute.—8, calm and cloudy.—10, sun shining, low fog; 10:08:52, scale increases irregularly to 49<sup>d</sup> o and then decreases to reading at 8:54; 10:09:16, scale increases rapidly and passes beyond line of sight; 10: 10: 56, 10: 58, and 11: 18, scale decreases irregularly.—11, clear, light northeast wind; 11:12:00, checked magnet with adjusting pin after this reading.—12, cloudy; 12: 04: 50, strong southeast wind, accompanied with rain; 12: 06: 30, rain has ceased, wind quieter; 12:06:56, scale decreasing very slowly; 12:10:30, calm and cloudy; 12:16:00, southwest wind, intermittent sunshine; 12:19:00, cloudy and calm; 12:21:30, drizzling rain and fog, wind rising; 12:22:58, scale quiescent for 10 seconds, then increases; 12:23:02, scale quiescent for 10 seconds, then increases to 45d.o; 12:23:14, scale quiescent, then decreases.— 14, calm to northwest wind to calm, low fog in beginning, rain at end.—16:00:00, clear with northwest wind; 16:01:00, cloudy and foggy; 16:01:50, thick fog and northwest wind; 16:03:30, north wind, clearing; 16:05:30, fresh northwest wind, clearing and sunshine.— 17, calm and cloudy; 17:10:22 and 10:24, scale increases almost imperceptibly.—18, sky overcast, calm; 18:14:56, scale quiescent for 10 seconds, then increases slowly to 15<sup>d</sup>.o.—19, sky clear, northwest wind; 19:02:18, thick fog rises; 19:05:20, fog disappears, sky cloudy; 19:07:04, scale decreases to 55d.0; 19:10:30, wind has shifted and is now from west; 19: 14: 42, light snow; 19: 18: 10, wind very light.—20, westerly wind, cumulus clouds.—21, high southwest wind, rain.—23, southwest squalls, foggy; 23:00:16, scale increasing rapidly; 23:01:14, scale read 75<sup>d</sup>.0 at one time; 23:01:26, amplitude of oscillation has spontaneously decreased; 23:01:56, magnet checked with adjusting pin; 23:02:06, after shifting circle scale decreased from 60d.o; 23:02:32, checked magnet after this reading with adjusting pin; 23:06:20, rainfall light and intermittent.—24, light northwest wind, cloudy; 24:08:40, checked magnet after this observation with adjusting pin; 24:08:56, scale rapidly increasing; 24: 10: 22, checked magnet after this observation with adjusting pin; 24: 10: 56, checked magnet after this observation with adjusting pin; 24:11:54, checked magnet after this observation with adjusting pin.-25, calm, cloudy, foggy, light rain.-26:00:00, cloudy, fresh northwest wind; 26:06:00, wind now from west; 26:14:00, intermittent sunshine, high cumulo-stratus and cirro-cumulus clouds; 26: 17: 40, calm, cloudy; 26: 20: 50, calm, low, thick fog; 26:22:18, fog lifts, sun appears; 26:23:10, clear sky, a thick fog is slowly coming in from the sea. -27, calm and cloudy. -28: 20: 00, calm, clear; 28: 20: 40, cloudy; 28: 21: 50, thick fog; 28: 22: 20, scale remains quiescent at the greater reading.—30, thick fog, calm.

# MAGNETIC OBSERVATIONS

# TABULATION OF MAGNETIC DECLINATIONS

OBSERVED AT

ALGER ISLAND STATION

FRANZ JOSEF ARCHIPELAGO

JUNE 26, 1905, TO JULY 30, 1905

NORTH LATITUDE: 81° 21.′5

LONGITUDE EAST OF GREENWICH: 3h 44m

Tabulation of magnetic declinations observed at Alger Island Station

Mond	lay, Jui	ne 26,	1905				Magn	et scale	erect	Tueso	lay, Ju	ine 27,	1905			Ma	gnet s	scale inv	erted
Chr'r time	Sc: read Left	_	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp. C.	Chr'r time		ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp C.
n m 3 00 02 04 06 08	đ	đ	0,	0	h m 10 00 02 04 06 08	d 47.0 47.8 48.7 49.0 49.3	d 47.3 48.3 49.1 49.4 49.7	20 29 30 31 32 32	+9.2	h m 12 00.5 02 04 06 08	d 59.2 58.8 58.2 58.1 58.9	d 58.8 58.1 57.7 57.8 58.2	20 09 10 11 11 10	+15.5	h m 14 00 02 04 06 08	d 59.3 59.6 61.4 61.0 62.1	d 58.9 59.0 61.0 60.8 61.8	20 09 08 05 06 04	+12.
10 12 14 16 18 20 22					10 12 14 16 18 20	49.6 49.2 49.2 48.8 48.2 47.0	50.0 49.6 49.6 49.2 48.6 47.3 47.9	33 32 32 32 31 29 29	+9.5	10 12 14 16 18 20	59.1 58.9 58.0 57.3 58.7 59.1	58.8 58.5 57.6 57.1 58.7 59.1	09 09 11 12 09 09	+15.6	10 12 14 16 18 20	62.8 64.2 67.5	62.3 64.1 66.9 68.8 68.1	03 20 01 19 56 53 54 52 45	+11.
24 26 28 30 32 34 36 38	52.5 52.3 52.7 52.0	55.6 55.0 55.5 54.3	20 39 39 40 38	+7.7	24 26 28 30 32 34 36	47.9 48.3 47.4 48.0 48.0 48.2 48.4	48.2 48.8 47.8 48.6 48.0 48.4 48.7	30 31 29 30 30 30	+9.7	24 26 28 30 32 34 36	50.4 58.3 57.9 57.4 57.6 56.8 54.0	59.2 57.9 57.7 57.1 57.4 56.2 54.5	08 10 11 12 11 13 16	+15.6	24 26 28 30 32 34 36	76. 75.3 75.1 74.9 76.0 69.8 65.2	0a 75.I 74.8 74.7 75.6 69.2 64.0	42 43 44 44 42 19 52 20 00	+11.
38 40 42 44 46 48 50 52	53.6 52.8 53.2 53.6 55.0 57.6 55.5 55.2	55.6 55.6 55.1 56.0 56.7 59.8 57.3 57.2	40 40 40 41 42 47 43	+8.0	38 40 42 44 46 48 50	48.3 47.8 47.8 47.7 48.3 48.0 46.6 46.0	48.6 48.0 48.1 48.7 48.1 46.8 46.3	31 30 30 30 31 30 28	+9.6	38 40 42 44 46 48 50	55.8 56.9 57.2 58.1 58.8 56.3 59.9	55.0 56.7 56.9 58.8 58.8 50.8 58.5 58.5	15 12 12 10 10 00 07	+15.4	38 40 42 44 46 48 50	62.9 67.9 60.1	62.8 60.7 59.2 62.1 62.8 67.0 68.8 66.2	03 06 08 03 20 03 19 56	+10.
54 56 58 00 02 04 06	56.5 54.6 54.3 56.8 51.8	58.0 56.2 58.0 54.3 53.0	43 44 42 41 45 38 37	+8.3	52 54 56 58 11 00 02 04 06	40.0 45.6 44.0 44.3 44.0 43.9 44.4 45.3	45.9 44.3 44.6 44.6 44.5 45.1 46.0	27 26 24 24 24 24 25 26	+9.5	54 56 58 13 00 02 04 06	59.9 59.7 59.1 61.2 62.8 63.0 65.1 63.5	50.5 58.1 58.1 60.4 62.1 62.8 64.4 62.8	09 09 10 06 04 02 00 02	+15.2	52 54 56 58 15 00 02 04 06	60.7 50.1 59.2 59.3 59.0	63.3 60.1 58.9 59.0 59.0 59.2	19 57 20 02 07 09 09 00 08 08	+10
08 10 12 14 16 18	53.3 50.7 49.6 51.0 50.0 46.0	55.2 51.6 50.5 51.6 51.6 46.4 51.2	40 35 33 35 34 27 35	+8.6	08 10 12 14 16 18	45.3 46.5 47.8 46.7 43.8 41.6 42.3 43.6	47.2 48.5 48.1 44.3 42.6 43.2 44.7	28 30 29 24 21 22 24	+9.3	08 10 12 14 16 18	63.2	62.1 63.2 64.8 63.3 50.2 61.4 65.0	03 01 00 02 08 05	+14.9	08 10 12 14 16 18	50.9 60.4 60.1 59.8 50.5 58.9	59.2 60.2 59.9 59.3 50.1 58.6 58.9	07 07 08 09 09	+10
20 22 24 26 28 30 32 34	53.2 50.1 49.3 49.3 49.9	50.5 49.7 50.0	40 30 34 32 32 33 34 33	+9.0	20 22 24 26 28 30 32 34	43.3 41.6 41.3 41.8 43.3	44.6 44.2 43.2 42.6 43.2 44.6 44.6	24 23 21 20	+9.2	22 24 26 28 30 32	65.0 64.1 63.6 66.7		00 01 20 02 10 57 20 04 10	+13.7	20 22 24 26 28 30 32		63.7 64.3 65.8 66.7 67.0	04 01 20 00 19 58 57 55 54 51	+10
36 38 40 42 44 46 48	49.2 49.4 49.0 50.0 49.6 49.4		32 32 32 33 33 33 33	<b>+9.0</b>	36 38 40 42 44 46 48	41.2 39.2 37.6 38.0 35.6 31.8	42.3 40.3 39.2 39.4 36.6 33.0 35.3	20 17 15 15 11 05	<b>+9.</b> 1	36 28 40 42 41 46 48	56.6 58.0 61.2 60.3 58.2 56.0 56.4	55.8 57.9 61.0 50.9 58.2 55.0	13 11 06 07 10 14 13	+12.7	36 38 40 42 44 46 48	74.0 73.2 73.2 74.0 71.1 70.5	72.8 72.0 72.0 73.6 70.8 70.1 67.9	47 47 47 46 50 51 19 54	'
50 52 54 56 58	48.8 48.0	40.4 48.3 49.2 49.3	32 31 31 32 29		50 52 54 56 58 12 00	36.4 36.6 35.2 34.7 35.6	37.4 37.6 36.3 36.0 36.9 36.5	12 13 11 10 11	+9.1	50 52 54 56 58	54.5 57.1 57.0 55.2	54.1	16 12 11 15 09		50 52 54 56 58 16 00	63.7 61.4 61.2 61.0	63.0 60.8 60.6 61.0 61.2 59.0	20 02 06 06 05	

Correction to local mean time is —21s. Torsion head at 8h 30m read 246° and at 13h 50m read the same. Observer—W. J. P. Correction to local mean time is — 30s.
Torsion head at 12h 00m read 258° and at 16h 20m read the same.
Observer—J. V.

### SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Wed	nesday,	, June	28, 1905				Magn	et scale	erect	Thur	sday,	June 29	9, 1905			Ma	ignet s	cale inv	erted
Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	cale dings Right	East decli- nation	Temp. C.	Chr'r time	Sc. read	ings	East decli- nation	Tem;
1 m	d	d ost	0 ,	0	h m	d	ď	0 /	•	h m	ď	đ	0 /	•	h m	d	d	0 /	
02		ost			2 00.5	51.0 55.2	52.9 56.6	20 46 53	+5.5	16 00	43.6 44.8	41.3 42.7	19 50 48	+15.0	18 00	19.5	19.0 18.0	20 29 30	+13.
<b>0</b> 4 <b>0</b> 6	37·5 35.8	37.8	20 24	+6.0	04	55.3	56.3	53		04	47.5	45.7	44		04	20.0	18.8	29 26	
08	39.8	36.4 40.2	22 28		o6 o8	51.3 48.2	53.0 50.2	47 42		06 08	48.5	47.I 47.7	42 40		06 08	22.0	20.6	20 25	
10	30.0	39.5	26 26		10	49.3	51.5	44 58 48		10	49.0	47.7	41		10	21.3	19.8	27	
12 14	38.3 36.3	39·4 37· <b>0</b>	20	+6.o	12 14	58.0 52.8	53·4	58	+5.2	12 14	50.7 49.8	48.7 48.5	39 40	+15.2	12	2I.3 19.7	20.1 18.7	27 29	+r3
14 16	36.3 31.8	33.2	16	'	16	49.0	49.5	42	, 5	16	52.3	51.0	36	1.512	14 16	18.5	17.5	31	17.3
18 20	3I.2 3I.2	32.0 33.2	15 16		18 20	49·5 46.5	50.5 47.6	44 39		18 20	54·3 55·0	53·3 54·1	33 32		18 20	21.3	20.3	26 26	
22	30.8	33.0	15		22	46.0	46.2	37		22	55-3	54-3	31		22	24.3	23.0	22	
24 26	31.1 32.0	33.I 33.8	15 17		24 26	46.6 T	47.8 ost	39		24 26	55.5 56.9	54.7 56.0	3I 29		24 26	24.7 26.8	23.9 26.3	21 18	
28	33.3	35· <b>7</b>	19	_	28	46.5	47.8	39 36		28	56.0	55.3	30	}	28	30.0	29.5		!
30 32	34·3 35·4	36.3 36.0	20 21	+6.0	30 32	44.6 44.3	45.5	36	+5.1	30	56.3 57.8	55.8	29	+15.1	30	33.0	32.3	08	+13
34 36	35.3	37.1	22		34	46.7	45.0 47.2	35 39		32 34	58.2	57·3 57·3	27 27		32 34	34·3 34·5	33.7 34.0	06 06	
36 38	34.0 34.2	35·4 36.3	20 20		34 36 38	49·4 48·4	50.0	43		34 36 38	57.5	57·3 56.6	27 28		34 36 38	34.J	33.6	06	
40	37.0	38.4	24		40	48.4	49.5 50.0	42 42		40	55.0 50.0	53.8 48.6	32 40	η,	38 40	34.I 34.0	33.6 33.1	06 07	
42	30.3 38.0	40.4	28 26		42	50.3	52.0	45 48	1	42	46.6	46.3	45 48		42	33.6	32.6	07 08	
44 46	37.8	40.2 40.4	26	+5.9	44 46	52.0 55.1	54.2 56.8	20 53	+5.0	44 46	44.6		48 52	+14.8	44	33.3	32.5 30.6	08 11	+13
48	37.3	40.3	26		48	60.3	61.6	21 01		48	41.0	40.6	54		44 46 48 50	31.3	28.8	14	
50 52	38.5 37.3	40.5 39.7	27 26		50 52	62.9 62.0	64.1 62.9	2I 03		50 52		40.3 .7b	19 54 20 00		50 52	28.0 26.5	27.2 25.3	16 19	
54	38.5	40.5	27		54 56	59.3	61.0	20 59		54 56	35.5	35.5	02		54 56	26.4	25.3	19	
56 58	40.9	42.3 48.1	30 39		50 58	57·5 57·0	59.8 59.5	57 56		56 58	33.0 30.6	32.3	07 10		56 5 <b>8</b>	27.6 29.0	26.7 27.5	17 16	
00	46.1	48.4	39	+5.6	3 00	57·7 57.8	59.3	57	+5.0	17 00	31.1	30.6	09	+14.1	19 00	29.3	27.5	15	+12
02 04	53.0 55.6	55.9 58.0	50 54		02 04	57.8 59.0	59 · 3 59 · 7	57 58		02 04	33.0 29.0	31.9 27.6	07		02	27.6 25.8	26.3 24.8	18	1
об	58.0	59·7	57		об	59.3	60.6	59		об	25.1	23.6	13 20		04 06	24.0	23.0	20 23	ı
08 01	53·3 51.5	55·7 54·3	51 48 46		08 10	58.2 59.0	59.0 59.2	57 58	-	08	20.8 20.6	20.0 19.6	26 26		08	21.3	20.6	27	
12	50.5	52.3	46	_	12	59.7	60.2	20 59	1	12	20.3	19.0	27		10	19.6	19.0 19.0	30 29	
14 16	50.7 48.3	52.0 49.6	46 42	+5.6	14 16	бо.і бі.з	61.0 62.3	2I 00 02	+5.0	14 16	10.5	18.3	28	+13.8	14	20. I	19.5	29	+12
18	47.0	48.3	40		18	61.6	62.8	03	į	18	16.3 16.7	15.7 15.3	33 33		16	20.2	19.6 20.3	20	
20 22	45.8	47·4 45·2	38 35		20 22	60.5	61.7 51.7	00		20 22	15.7	14.7	34		20	20.3	19.8	29	
24	43.7	43.3	32		24	59·3 59·5	62.1	or		24	16.9	14.1 15.7	35 33		22	20.6 19.5	18.8	29 30	
26 28	45.2	43.3 45.6 .0a	36		26 28	50.8	62.6	21 01		26	19.2	18.1	29		26	23.5	22.6	24	
30	55.7	58.0	44 54	+5.5	30	58.0 56.0	58.2	20 58 55	+5.1	28 30	19.3 17.6	18.0 17.0	29 31	+13.2	28 30	24.2	22.0 21.7	24 25	+1
32	56.7	58.o	55		32	55.0	56.5	52		32	т8.о	16.6	31	1 1,,,,	32	22.0	20.7	27	' -
34 36		58.0 49.7	54 42		34 36	54·5 55.6	55.8 5 <b>7.0</b>	52 53		34 36	19. I	17.6 18.7	30 28		34 36 38	20. I	19.0 19.1	30	
36 38	48.0	50.0	42		36 38	55.6	57.0	53		38	20.3	18.6	28 26		38	20.1	20.6	30 27	
40 42	49.0 46.7	49.3	42 30		40 42	57.0 56.0	58.3 58.0	55		40 42	21.7	20.3			40	20.9	20.3	27 28	
44	52.0	53.7	30 48	+5.5	44	55.3	57.3	54 53 56 56	+5.2	44		19.6	27 27	+13.0	42 44	21.3	20.5 20.6	28 28 28	+11
44 46 48	54·3 55.0	56.3	52 52		46 48	55.3 56.5 56.6	59.0 60.0	56		46	20.5	19.8	27		44 46		20.6		
50	55.8	57.2			50	54.8 56.6	58.0	50		48 50	23.3	17.2 22.7	30 23		48 50	21.8	21.0 21.3	27 27	
52	52.0	53.6	54 48		52	56.6	60.0	54 20 56		52	24.0	23.0	22		52	22.3	21.5	27 26	
50 52 54 56 58	48.5	50.3 49.2	42 40		54 56	58.3 54.0	62.3 57.2	2I 00 20 52		54 56	20.9 20.3	19.6 19.1	27 28		50 52 54 56 58	21.6	20.6	28 28	
58		49.8	41		58	53.0 56.6	56.7 59.8	51		58	18.7	17.5	30			22.0	20.8	27	+11
					4 00	50.0	59.8	56	+5.2						20 00	21.8	21.0	27	

Correction to local mean time is - 31s.

No torsion observations made.

Observer-W. J. P.

Correction to local mean time is — 20.6s. 90° torsion = 22.'67. Torsion head at 16h oom read 260° and at 20h 20m read 242°. Observer—W. J. P.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Frida	y, June 30, 1	1905				Magn	et scale	erect	Sund	ay, Ju	ly 2, 19	05				Mágn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sc: read	ings	East decli- nation	Temp.	Chr'r time	read	cale dings Right	East decli- nation	Temp. C.	Chr'r time	Sca readi	ngs	East decli- nation	Temp
h m	d d	0 ,	0	h m	d	đ	0 ,		h m	ď	ď	0 /	•	h m	d	ď	· ,	•
00*	45.3 48.0	20 11	+9.5	22 00	10.8	22.8	18 58 18 58	+6.5	0 00*	41.3 36.2		20 16	+2.5	2 00	59.0 61.7	60.1 62.3	20 44 48	+1.2
04	38.7 40.8	20 00		02 04	22.3	23.3 22.8	10 07		04	28.5	29.6	19 56		04	62.3	63.3	49	
o6 o8	37.7 39.5 36.8 38.8	19. 58		06 08		16.5 .8a	18 57 19 06		06 08	30.5	33.6	19 59		06 08		63.4 62.7	49 48	
10 12	37.0 38.7 36.9 38.5	57		10		.oa	23		10 12	34.8 33.6	35.5	06 04	,	IO I2		64.2	50 51	
14	37.0 38.6	57 57	+9.5	12 14	39.3	35·3 41.2	25 35	+6.5	14	34.0	34.4	04	+r.5	14	63.0	64.0	50	+r.
16 18	34.8 36.4 31.4 33.3	54 48		16 18	50.0	55.6 60.2	19 54		18	35.0 41.3		об 16		16 18	62.6	63.3 63.6	49 50	
20	28.2 29.6	43 38		20*5 22*	26.2	35-5	45		20 22	42.1	42.5	17 16		20 22	62.5	63.1	49 47	
22 24	25.4 26.3 24.3 25.3	37		24	40.4 24.6	61.6 38.8	20 00 19 30		24	43.3	44.5	19		24	61.0	62.0	47	ļ
26 28	25.3 26.2 24.6 25.3	38		26 28	20.7 27.6	36.3 30.6	24 25		26 28	44.7 44.6	46.0 46.6	22 22		26 28		61.3 60.2	46 45	
30	24.3 24.8	37 36 38	+9.2	30	33.8	36.8 46.8	35	+5.6	30 32	45.3 48.0	45.7	22 27	+1.5	30° 32	59.0 58.4	59·5 59·3	43 43	+1.
32 34	26.0 26.6	39		32 34	42.2	43.8	50 46		34	52.3	54.7	34 20 48		34	59.0	59.2	43	
36 38	23.3 24.1 21.0 22.8	35 33		36 38	45.2 25.5	49.5 29.5	54 23		34 36 38	59.9 69.5	71.0	20 48		34 36 38	59.8	60.6 60.6	45 45	ľ
40	19.6 20.3	29		40	14.0	19.0	06 14	'	40 42	58.0	58.5	20 54 42		40 42		62.1 65.9	45 47 53 52 48 48 48	
42 44	23.8 24.0	33 36	+8.8	42 44	19.5	24.6	13		44 46	54.5	54:6	36	+1.4	44° 46	64.6	65.0	52	+1.
46 48	27.5 27.7 27.2 27.6	4I 4T		46 48	18.8	22.6 26.2	12	+5.2	48	52.0 62.5	63.0	3'3' 49		48	61.5	62.9 62.1	48	
50	30.6 30.0	46		50	18.2	20.9	10		50 52	66.1 54.3		55 37		50 52		62.3 64.2	48 51	
52 54	30.3 30.8	40 46		52 54	24.0	27.4 33.0	20		54 56	54.2	55.8	37		54 56	65.8	66.3	54 56	;
56 58	28.6 28.8	43		56 48	34.5	37.3 34.8	36 33		58	57.8 61.1	61.5	42' 47		58		67.3 69.0	20 59	
00	32.7 32.7	40	+8.2	23 00 02	32.5	35.0 37.7	33	+5.0	J 00 02	55.3	-	50 39	+1.3	3 00		71.2 73.1	2I 02 05	十1.
02	33.3 33.6 30.8 31.3	50 46		01	36.5	38.4	37 38		04 06	49.8	51.0	30		04	75.8	76.6	10	
ირ ი8	20.1 20.4 26.5 26.9	44		ირ ი <b>8</b>	38.8	40.0 40.4	42 42		08	49·4 47·7		20 26		o6 o8*	57.3		14 21	
10	25.3b	. 38		10 12	42.6	44.0	48		IO I2	46.9		25 23		IO 12	60.0	st, 63.0	26	
14	22.3a 23.3a	33 34	十7.5	Τ4	36.3	38.0	.38	+4.9	14	40.9	51.0	30	+1.3	14	60.2	63.2	26 28	+1.
18 18	26.2 26.6 30.6 32.3	39 47		18	36.0 39.0	37.8 42.0	38 43		18	48.1	49.2	26 27		18	62.3	64.0 65.3	20 29	
20	26.3 20.8	42		20 22	35.6 35.7	37.2 37.3	37 37		20 22	48.8		27 22		20 22		67.0 66.8	32 32	
22 24	18.3 18.8 31.3 35.9	27 50		21	34.6	35.9	35		24	46.2 46.6	46.6	23		24	62.3 61.1	65.5	30 26	
26 28	13.0 21.5 16.8 24.8	25 30		26 28	28.6 26.0	31.2 28.3	27 22		26 28	45.6	46.6	24		26 28	58.0 56.2	59.3 57.8	21	
30	16.3 22.5	28	<b>∔7.</b> ≀	30 32	28.2 30.8	31.3	26 29	+4.6	30 32	47.0 49.1		25 28	+1.3	30 32	55.6	57.8	18	<del> </del>
32 34 36	17.3 23.7 24.3 32.0	30 42		34	25.5	26.8	21		34 36	53.2	54.0	35		34	55.9	56.8	<b>18</b>	
36 38	28.5 33.3 30.2 37.8	46 51	,	36 38	26.7	20.6 30.7	25		38	51.2 55.7	56.7	32 39		36 38	54·3 53·0 52·6	55·3 54·3 53.8	15	
40	23.0 30.5	40		40 42	35.2 36.8	36.2 38.2	36 39		40 42	52.3 56.9	53·3 57·0	33 40		40 42	52.6	53.8 53.3	13 12	
42 44*	8.0 16.0 40.2 54.8	10 17	+6.8	11	34.8	35.3	35	+4.5	44	60.3	60.3	45	+1.3	44	48.5	49.0	21 06	+2.
46 48	38.2 48.6 45.0 50.6	18 55		46 48	27.2 27.2	20.3 28.7	24 24		46 48	61.3	61.6 61.5	47 47 48		44 46 48	42.0	43.6	20 57 20 56	
50	52.5 68.3	19 08		50	28.0	29.3	25		50 52	61.7 62.0	62.3	48 48		50 52	47.0 48.6	47.6 49.6	21 04	
52** 54	28.4 45.6 43.5 57.3	30 51		52 54	32.7 36.2	33.5 36.8	32 37		54	61.5	61.8	47		50 52 54 56 58	42.8	44.3	20 58	
50 52* 54 56 58	29.8 41.6	28 20	1	56 5 <b>8</b>	41.2 42.8	42.3 43.3	45		54 56 58	59.3	59.6 59.8	44 44		50	38.5 44.5	39·3 46.0	20 50 21 00	
20	24.3 37.0	20		24 00	44.5	45.2	50	+4.3						ľ				

Correction to local mean time is — 24s. 90° torsion = 18.59. Torsion head at 20h oom read 249° and at 24h oom read 252°. Observer—W. J. P.

Observer-W. J. P.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Sund	ay, July 2, 19	005			Magne	t scale inv	rerted	Mon	day, July 3,	1905			Ma	ignet s	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings	nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem:
h m	d d 56.6 52.5	° ,	+2.0	h m 6 oo	d (		+2.4	h m 8 oo	d d Lost	0 /	0	h m	d 62.8	d 62.5	20 27 :	•
02 04	60.3 55.8 68.3 64.0	21 06	72.0	02 04	37.7 37 41.5 41 48.6 47	I 42	7-2.4	02 04	57.4 52.5	20 37 36	+1.6	02 04	60.6 59.9	60.0 59.3	30	F2.0
o6 o8	72.6 68.6 77.5 74.6	20 53 46 38		06 08	50.2 49	6 29		06 08	56.2 55.5 58.0 56.6 61.5 60.9	34 28		06 08	60.1	59.5	32 31	
10# 12	46.0 45.2	35		10	40.0a 23.2 22			10 12	62.5 61.8 63.6 62.5	26		10	59.5 57.7 56.8	59·3 57·2	32 35	ĺ
14 16	33.5 29.2	50 58	+2.0	12 14	32.0 31 25.0 24	0 21 08		14 16	62.8 61.8 61.6 60.3	26 28	+2.0	12 14 16	57.2	54·3 56·4	35 38 36 36 38	+2.6
18 20	35.4 31.6 42.2 36.6 40.5 36.3	54 45		16 18	31.8 30 30.0 28	9 21 01	+2.3	18	61.5 60.5 62.5 61.6	28 26		18	57.0 56.2	56.6 55.3 54.8	38	
22	43.0 39.0	47 42		20 22	29.2 28 30.8 30	6 20 58		22 24	60.6 60.2 62.6 61.8	29 26		20	55.0 56.2	50.0	39 37	
24 26 28	32.0 28.1	20 52 21 00		24 26	33.3 32.	2 48		26 28	64.6 64.0 65.9 64.5	23		24 26 28	59·3 57·8	59·3 57·4	32 35	
30 32	32.7 29.0 32.8 29.7 35.9 32.5		+2.1	28 30	38.7 38. 40.1 39.	6 44	+2.4	30 32	68.8 67.4	21 17	+2.2	30	56.3 55.8	56.1 55.1	37 39 38	+2.8
34 36 38	33.5 30.3 32.3 29.5	53 57 58		32 34 36	37.2 37. 43.0a	39		34 36 38	71.2 70.3 71.4 70.4 69.4 68.5	13 12 16		32 34	55.8 55.3	55·4 54.8	39	
38 40	32.2 29.5	20 58 21 00		38	46.5 46.	6 32		38 40	69.4 68.5 68.8 68.3 65.6 65.0	16		34 36 38	54.9 53.6	54.6 53.4	40 41	
42	31.4 29.0 30.3 28.5 30.4 29.0	10	+2.2	40 42	47.5 47. 44.9 44.	0 37		42	64.8 63.6 61.8 61.0	21 23 28		40 42	55.0	54.6 56.3	39 37	
44 46 48 50	<b>36.</b> 1 34.2	21 00 20 52	+2.2	44 46	43.8 43.	0 30	+2.2	44 46 48	61.0 60.5 60.6 60.2	29	100	44	59.6 57.3 57.5	57.0 57.0	37 34 36 36 36	+2.9
50 52	33.0 31.2 34.8 34.0 38.5 37.2	56 53 48		48 50.7	31.6 31. 29.9 29.	5 21 00		50 52	58.8 58.0	29 32	+2.2	50 50	57.5	57·3 57·0	36 36	
54 56	35.5 34.2 35.0 33.8	52 53		52 54* 56	29.0b 27.2 21.			54 56 58	55.2 54.3	35 38		44 46 48 50 52 54 56 58	56.5	56.2 56.6	37 36	
58	37.2 36.1 40.9 40.0	55 50 44	+2.3	58	49.0 47. 63.1 57.	4 00		58 9 00	59.9 58.0 61.0 60.2 63.0 62.8	32 29 25	100		58.0 58.1	57·5 55·4	35 37	106
02 04	38.6 37.3 40.2 39.5	47	+2.3	7 00	57.0 53. 78.0 74.	6 20 35	+2.3	02 04	60.3 59.8 58.5 58.5	30	+2.2	11 00 02	59.3	59.0	33 31	+2.6
o6 o8	45.0 44.2 42.2 4I.0	44 37 42		04 06 08	75.3 71. 77.8 74. 66.2 65.	0 35		06 08	55.3 54.9 54.0 53.3	32 38		04 06 08	62.0	61.0	30 29 28	
10 12	42.8 41.6 41.8 41.5	41 41 42		10 12	52.0 49. 77.8 69.	6 21 15		IO I2	55.0 54.5 55.5 55.3	40 38		10 12	62.6	62.3	26	
14 16	35.6 35.0 39.1 37.4	51 47	+2.5	14 16	67.0 63. 70.6 68.	2 52	+2.6	14 16.5	56.3 55.6	37 37 38 38	+2.3	14 16	65.3	65.3 64.3 62.8	23 25 27	+2.6
18 20	40.4 38.6 38.8 38.1	45 47		18	70.6 67. 65.6 63.	6 46		18 20.5	55.3 54.6	38 37		18	63.0	61.0	30	
22 24	40.0 30.4	44 44		22 24	70.2 68. 66.0 64.	1 46		22	54.6 54.3 56.5 56.0	39 36		22 24	59.3 56.4		33 38 39	
26.6 28	40.5 39.6 43.0 41.6 40.6 39.0	40 44		26 28	68.8 66. 66.6 65.	3 48		26 28	58.2 57.2	34 34		26 28	55.6 56.8 56.0	55.6 55.8	37	
30 32	39.0 37.3 30.0 38.5	47 46	+2.3	30 32	65.9 64. 65.1 63.	0 52	+3.1	30 32	57.3 56.6	35 32	+2.5	30 32	55·3 55·9	55.0 55.7	38 39 38	+2.6
34 36	36.0 35.1 35.5 34.6	51 52		34 36	65.1 64. 64.0 63.	53		34 36	59.2 58.5 61.2 60.6 62.3 61.3	29 28	]	34 36 38	55.3	54.9	40	
38 40	33.8 33.0 31.3 31.1	54 58		38 40	65.2 64. 64.0 63.	4 53		38 40	62.0 61.0	28 26		38 40	53.0 51.8 57.2	52.2 51.2 57.0	44 45 37	
44	31.0 30.1 32.2 31.2	59 57	+2.3	42 44	67.8 66. 68.5 67.	49	+3.6	42 44	63.8 62.5	25	+2.6	42		52.3 51.8	37 44 44	+2.7
46 48	32.1 31.6 37.3 36.6	57 49		46 48	67.0 66.	50		46 48	63.6 63.0 64.4 63.8	25 24		44 46 48	52.0	51.7 52.3	45 44	,
50 52	34.4 33.0 37.3 36.3	54 40		50 52	68.6 67. 67.3 66.	48		50 52	65.4 64.4 67.3 66.3	23		50 52	53.0	52.6 51.7	43	
54 56 58	30.0 38.2 38.7 38.0	46 47		54 56	68.7 68. 68.2 67.	47		54 56	66.4 65.0	21 23		54 56	51.6 52.5	51.3	45 46	
58	37.3 36.9	49		58 8 oo	68.7 68. 69.7 69.	2 47	+4.0	58	65.2 64.5 63.5 63.5	26		58 12 00	53·3 53·5	53.0	44 43 43	+2.8

Correction to local mean time is -29.28. 90° torsion = 18.23. Torsion head at oh oom read 252° and at 8h 10m read 249°. Observer—W. J. P.

Correction to local mean time is — 33s. 90° torsion = 20.'27. Torsion head at 8h oom read 270° and at 12h 20m read 255°. Observer—W. J. P.

## Tabulation of magnetic declinations observed at Alger Island Station-Continued

		-	<u> </u>	11			1			1	1	1 1	1				1
Chr'r time	Scale readings Left Righ	East decli- nation		Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca readi	ings	East decli- nation	Tem C.
ı m	d d	1		h m	d	d	0 ,	•	h m	d d	0 ,		h m	d	d	. ,	•
00	39.9 40.3 39.8 40.6	81		I4 00 02	34·7 35·3	36.2 37.2	20 II I2	+12.6	0 01*	40.6 37.5 41.0 38.2	20 29 28	+2.0	2 00	17.8 16.2	17.0 15.4	2I 03 05	
04 06	38.3 38.6 37.1 37.		1	04 06	36.0	37.6	13 16		04 06	44.0 40.3 45.3 42.6	24 2I		04 06	15.6	14.6	07	+2.0
80	35.9 36.	12		08	37.3	39.1 40.7	18		о8	46.6 44.0	19		08	14.1	13.4	09	
10 12	36.2 36.0 34.5 34.9			IO I2	40.0 39.9	41.2 41.1	19 19		I0 I2	50.0 48.0 52.1 49.9	13		I0 I2	I4.2 I5.0	13.9 14.7	08 07	
14	33.6 33.8	80   8	+ 8.8	14	41.1	42.6	21	+12.8	14	51.8 49.2	II	+2.2	14	13.9	13.0	09	+2.0
18 18	35.6 36.6 36.9 37.5		1	18	40.7	41.9 41.0	20 19		16	49.0 47.0 48.1 46.1	15		16	12.9	12.7	10	
20	36.6 36.	13		20	39.2	40.2	18		20 22	48.1 46.1	16 16		20	13.7	13.2	09	
<b>22</b> 24	34.9 35.7 31.8 32.4			22 24	37.9 36.9	38.9 37.7	16		24 26	48.4 46.5 48.6 46.0	16		22 24	14.4	13.7	08 05	
26 28	30.5 31.6 31.0 31.8	04		26 28	34.6	35.1	08		26 28	47.0 45.2 47.0 45.6	18		26 28	16.9	IĞ.2	04	
30	32.6 33.6		+ 9.2	30	33.0 34.1	33.6 34.8	10	+12.3	30	47.1 45.7	18	+2.5	30	17.6 19.2	17.0	2I 00	+1.9
32	33.5 34.2 31.0 31.0			32.5	36.5 37.3	37.1 38.0	13		32 34	49.1 48.0 51.6 50.0	I4 I0		32 34	23.9 25.9	22.9 25.3	20 54	
34 36	31.6 32.3	06		34 36 38	39.1	40.0	18		34 36	56.0 54.6	20 04		36	26.3	25.9	50 49	
38 40	34.6 35.3 36.6 37.4			38 40	39.0	40.0 40.9	18		38 40	59.2 58.0 61.1 60.2	19 58		38 40	26.5 26.0	26.0 25.5	49 50	
42	36.3 37.0	13		42	40.2	41.2	20	1	42	61.1 60.1	55		42	25.1	24.6	51	l
44 46	35.6 36.3 35.6 36.2		+ 9.2	44 46	40.5	41.7 43.3	20 23	;	44 46 48	60.0 59.0 60.0 59.2	57 57	+2.2	44 46	23.0	22.7	54 56	+1.8
48	34.6 35.6	11		48	41.7	42.0	21	+11.4	48 50	59.1 58.5 57.4 56.8	19 58 20 01		48	23.3	22.9	54 48	
50 52	34·4 35·3 33·8 34·5			50 52	40.5	40.9 42.8	20 22		52	54.5 54.0	05		50 52	27.3 32.		39 36	1
54 56	34.7 35.5			54 56	41.6	42.3 41.6	2I 20		54 56	51.0 50.8 48.3 47.8	10		54 56	35.I 35.I	34.8	36 36	
58	34.8 35.1 34.3 35.0			58	40.3	40.9	19		58	47.8 47.0	15 16		58	33.4	34.7 32.9	38	
00 02	32.5 33.0 30.6 31.5		+ 9.0	15 00 02	40.3	40.9	19 20	+10.6	I 00 02	47.0 46.7 47.0 46.9	17	+2.0	3 00 02	31.9	31.3	41 40	+1.8
04	30.8 31.6	05		04	41.0	41.5	20		04	48.1 47.8	15		04	31.9	31.2	41	
96 98	28.8 29.9 27.5 28.7			06 08	41.2	41.8	21 20		06 08	48.2 47.9 49.0 48.8	15 14		o6 o8	33.I 34.2	32.2 33.8	39 37	
10	27.3 28.9	20 00		10	41.0	41.3	20		10	49.8 49.6	12		10	32.2	32.0	40	
12 14	26.0 26.5 25.6 27.5		+ 9.0	I2 I4	40.6	41.I 40.9	20 20	+10.0	12 14	50.0 49.6	I2 I0		12 14	30.1 30.0	30.0 29.7	43 44	+1.8
16	26.1 28.0	19 58		16	39.8	40.0	18		16 18	52.9 52.5 51.2 50.8	08	+2.0	16	30.5	29.9	43	'
18 20	28.3 30.1 20.9 30.1			18	40.6	40.6 41.0	19 20		20	Lost	10		18 20	31.0	30.3	42 43	
22	28.4 34.2	05		22	40.3	40.5	19 20		22 24	Lost 39.0b	20		22 24	27.2 27.3	26.7 26.8	43 48 48	
24.4 26	29.3 34.5 31.0 35.6			24 26	41.0	41.3 41.3	20		26	32.5 32.5 27.5b	39		26	28.8	28.0	46	
28	32.2 36.0	10	+10.0	28 30	40.8	41.1 40.9	20 10	+ 9.2	28 30	27.5b 24.8b	47 51		28 30	29.8	28.9 28.7	44 45	+2.0
30 32	33.3 37.6 34.0 38.1	11	10.0	32	39.8	40.0	18	9.2	32	23.8 23.2	53	+2.0	32	29.4	28.4	45	
34 86	34.9 38.3 35.0 38.3	13		34 36	40.0	40.3 39.8	18		34 36	23.0 22.8 24.0 23.5	54 53		34 36 38	30.4	29.4 26.9	43 48 46	
8	35.2 38.0	13		38	38.6	39.I	16		38	23.9 23.2	53		38	28.6	27.4	46	
to	35.5 38.1 35.8 38.0	13		40 42	38.8 38.2	30.2 38.6	17 16		40 42	25.I 24.8 25.I 24.5	51 51		40 42		27.7 25.1	46 50	+2.
2	35.7 37.9	13	+11.0	44	37.8	38.0	15	+ 8.8	44 46	25.0 24.6	51		44	27.2	26.7	50 48	' - '
6 8	36.0 38.0 36.0 38.0	14		46 48	38.3 39.1	38.6 39.3	16 17		40 48	24.3 24.0 26.1 25.7	52 50	+2.0	42 44 46 48	30. 31.0	5a 30.0	42 42	
o	36.3 38.3	14		50	39.2	39.4	17		50	25.8 25.0	50		50	30.8	29.6	43 46	
2	35.6 38.6	14 12		52 54	39·4 39·0	39.4 39.8	17 17		52 54	23.8 23.2 21.8 21.1	20 57		52 54	29.0 26.8	27.8 25.4	46 49	
50 52 54 56 58	35.I 37.0 35.5 37.0	12		56 58	39.3	39.6	17		54 56 58	19.8 19.1 19.1 18.7	21 00		50 52 54 56 58	24.0	23.3	20 53	+2.
8	34.8 36.3	11		16 00	40.0 39.8	40.3	19 19	+ 8.1	50	19.1 18.7	01		58	19.8	19.5	21 00	

Correction to local mean time is about — 40s. 90° torsion = 18.'09. Torsion head at 12h oom read 258° and at 16h 15m read 253°. Observer—W. J. P.

Observer-A. F.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp C.
h m 4 00 02 04 06 08	d d 16.3 15.2 21.0 19.4 25.2 24.2 29.2 28.5 30.5 29.9 30.2 29.6	21 06 20 59 52 45 43	۰	h m 6 00 02 04 06 08 10	d d 53.5 48.3 56.0 50.2 61.3 53.5 60.9 54.1 63.2 59.3 62.3 57.0	23 44 40 33 33 27 30	+3.0	h m 8 00 02 04 06 08 10	d d 51.5 50.4 49.6 48.6 51.3 50.6 50.6 49.9 56.6 55.3 56.6 55.2	20 39 42 39 40 31	+2.5	h m 10 00 02 04 06 08 10	d d 61.2 60.9 60.1 59.7 60.0 59.3 58.7 58.3 59.6 58.9	20 23 25 25 27 26 26	+3.0
12 14 16 18 20 22 24 26	28.9 28.0 26.9 26.2 25.2 27.2 26.2 28.3 27.4 30.8 29.5 31.9 31.0	43 46 47 50 48 47 43	+2.3	12 14 16* 18 20 22 24	67.3 64.0 71.0 69.0 51.0 46.8 41.8 38.0 29.0 24.4 50.9 44.8 53.8 50.3	20 23 14 22 56 23 10 23 31 22 58	+3.0	10 12 14 16 18 20 22 24 26	57.3 56.5 58.0 55.3 59.0 58.3 59.8 59.3 60.6 60.5 59.6 58.8 59.6 59.4	31 29 30 27 25 24 26	+2.7	12 14 16 18 20 22 24 26	59.3 59.0 59.0 58.4 60.3 60.1 60.6 60.0 60.3 60.0 61.0a 66.1 65.1 65.7 64.3	26 24 24 24 23 16	+3.2
28 30 32 34 36 38 40	31.5 29.9 30.6 29.4 31.4 30.5 31.9 30.2 30.7 29.4 31.4 29.9 33.0 31.7 32.8 31.0	42 43 42 42 43 42 40 40	+2.4	28 30 32 34 36 38* 40	52.9 49.3 49.5 47.0 61.2 58.5 72.1 67.0 72.0 68.5 75.0 73.0 39.0 32.3 41.3 35.6	52 57 39 24 23 17 22 00 21 56	+3.1	28 30 32 34 36 38.3	54.4 54.0 53.0 52.5 60.2 60.0 63.3 61.9 56.6 54.3 41.8 39.8 52.3 52.0 57.3 55.6	33 36 24 20 32 54 37 30	+2.7	28 30 32 34 36 38 40	62.9 61.7 58.6 57.5 56.6 55.6 59.0 57.6 62.0 60.8 65.3 63.7 67.8 66.8 67.2 66.2	21 28 30 27 22 17 13	+3.5
42 44 46 48 50 52* 54 56	30.3 29.2 28.0 26.6 20.3 19.1 15.2 14.5 10.2 9.3 39.8 35.8 36.3 32.3	44 47 20 59 21 07 15 24 30	+2.5	42 44 46 48 50 52 54	38.1 33.5 43.5 37.0 55.3 51.6 61.3 56.1 62.3 57.0 67.2 62.4 64.4 59.5	22 00 21 53 32 24 23 15	+3.1	42 44 46 48 50 52 54	60.1 59.3 61.0 60.0 63.3 62.6 65.5 64.4 65.2 64.3 66.6 65.8 67.0 66.0	25 24 20 17 17 15	+2.8	42 44 46 48 50 52 54	60.0 59.8 66.1 56.8 56.8 56.8 60.6 60.0 63.0 62.8 64.0 63.1 63.3 62.9	25 30 29 24 20 19 20	+3.8
56 58 5 00 02 04 06 08	31.5 27.2 34.2 30.3 31.8 28.0 26.1 22.8 20.8 16.0 17.0 13.8 17.1 13.8 16.3 12.8	37 33 36 45 55 59 21 59 22 01	+2.5	56 58 7 00 02 04 06 08*	63.8 59.2 61.6 57.0 68.0 64.0 72.6 63.0 75.6 72.4 75.2 71.8 43.6 35.1 38.5 38.3	20 23 13 10 00 21 01 20 57 58	+3.0	56 58 9 00 02 04 06 08	67.2 66.3 66.3 65.6 66.2 65.1 66.0 64.8 65.6 64.3 65.3 64.6 65.6 65.0 64.3 63.8	14 15 16 16 17 17 16	+2.8	56 58 11 00 02 04 06 08 10	63.0 62.6 65.0 61.3 62.5 62.5 62.6 62.3 62.3 62.0 62.6 62.6 63.5 63.3 62.9 62.1	20 20 20 21 21 20 19 20	+4.0
12 14 16 18 20 22 24	14.9 11.8 13.0 9.5 13.3 10.0 13.5 10.7 14.6 11.3 16.3 13.3 18.3 15.4	02 06 05 04 03 22 00 21 57	+2.6	12 14 16 18 20 22 24	43.0 42.0 50.6 50.3 53.3 51.6 47.0 45.8 48.1 47.6 50.3 50.0 57.8 57.0	52 40 36 46 44 40 29	+2.8	12 14 16 18 20 22 24	63.8 63.3 63.4 62.6 63.1 62.3 62.5 61.5 62.8 61.5 61.8 60.8 61.0 60.5	20 20 21 21 21 22 23	+2.7	12 14 16 18 20 22 24	63.6 63.1 60.6 60.2 60.1 59.9 61.0 61.0 60.6 60.2 61.8 61.5 60.8 60.6	20 19 24 24 23 24 22 23	+4.0
26 28 30* 32 34 36 38 40*	11.0 10.1 8.0 5.5 37.5 31.9 37.9 32.4 31.9 27.2 27.7 21.5 15.8 9.7 44.0 30.8	22 07 13 24 23 32 40 22 58 23 08	+2.8	26 28 30 32 34 36 38 40	53.3 52.8 54.4 53.9 50.8 50.0 49.3 48.7 44.9 44.6 43.0 42.3 42.5 42.3 38.0 37.5	35 34 39 42 48 52 52 20 59	+2.7	26 28 30 32 34 36 38 40	61.0 60.5 60.5 60.0 61.0 60.0 59.5 58.9 59.9 59.3 60.1 50.6 60.3 60.0 60.6 60.3	23 24 24 26 25 25 24	+2.7	26 28 30 32 34 36 38	60.8 60.4 61.0 60.6 61.0 60.4 50.5 50.2 58.8 58.3 57.3 56.5 57.5 56.8	24 23 23 26 27 29	+4.0
42 44 46 48 50 52 54 56* 58	42.0 38.2 29.0 24.3 22.3 20.8 27.3 23.9 22.9 20.5 18.5 15.2 7.5 5.0 44.0 38.1 48.8 42.2	32 41 34 40 23 48 24 04 23 59 52	+3.0	42 44 46 48 50 52 54 56 58	34.6 34.0 31.0a 34.1 34.0 36.0a 41.5 41.3 35.3 35.0 45.0 45.0 45.3 45.1 49.5 49.1	21 05 10 05 21 02 20 54 21 04 20 48 48 41	+2.6	42 44 46 48 50 52 54 56	59.9 58.4 59.3 58.6 59.5 58.6 60.0 58.8 60.0 58.8 60.0 59.9	24 25 26 26 26 26 26 26 26 26	+2.8	40 42 44 46 48 50 52 54 56	60.0 59.6 63.0 62.3 63.0 62.3 63.4 62.0 62.3 61.1 61.7 60.3 63.6 62.3 63.7 62.5 60.0 59.2	25 20 20 20 22 23 20 19 25	+4.1

Observers—A. F. and W. J. P., who alternated from 6h 08m to Observer—W. J. P. 6h 22m.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Wedr	nesday, July	5, 1905			Magnet s	cale inve	erted	Wedr	iesday,	July 5	5, 1905			Magnet s	cale inve	erted
Chr'r time	Scale readings Left Right	East decli- nation.	Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp C.
ı m	d d	0 ,	0	h m	d d	0 /	0	h m	d		0,		h m	d d	0 /	•
00	69.0 68.8	20 10	+4.0	14 00	63.9 63.2	20 19	+4.1	16 00	33.1	31.8	20 18	+3.5	18 00	46.7 44.9	19 56	+3.0
02 04	68.3 68.0 64.3 63.8	12		02 04	65.1 64.8 67.4 67.1	17		02	33.8 34.1	32.1 32.4	17		02 04	46.5 45.3 46.6 45.5	56 56	
06	66.8 66.2	14		06	70.50	08	1	<b>o</b> 6	33.7	32.2	17		<b>o</b> 6	46.3 45.4	56	
08 10	63.6 62.4	20 24		08	75.0 74.3 78.00	20 02 19 56		08	33.6 33.8	32.I 32.9	17	l	08 10	46.0 45.0 45.6 44.6	57 58 58	
12	61.6 60.3	23		12*	49.0 44.2	55		12	34.2	33.2	16		12	45.2 44.2	58	
14	60.6 59.6	24	<b>+4.1</b>	14	48.8 44.9	55	+4.4	14 16	34.3	33.1	16 16	+3.8	14 16	44.5 43.6	59 58 58	+3.0
16 18	60.0 59.2 60.0 59.3	25 25		16 18	48.2 43.7 46.2 42.2	56 19 59	1	18	34.0	32.7 30.9	10	73.0	18	44.9 44.2 45.3 44.6	58	73.0
20	60.2 59.3	25		20	45.3 41.2	20 OI		20	31.2	29.4	21		20	45.5 44.7	58 58	
22 24	60.0 59.1	25 25		22 24	46.5 42.9	19 59		22 24	31.2 32.4	29.8 30.3	20 19		22 24	45.5 44.9 46.0 45.3	57	
26	60.6 59.8	24		26	44.3 40.8	20 02		26	32.6	30.8	19		26	46.1 45.4	57	
28 30	60.0 59.0	25	-14 =	28 30	44.4 41.0	OI	+4.4	28.3 30	32.6 32.2	31.1	18	+3.9	28 30	45.9 45.3 45.6 45.0	56 57	
32	60.0 59.0	25 25	+4.1	32	44.7 41.7 44.6 42.0	00	14.4	32	31.9	30.7	19	13.9	32	45.7 45.2	57 58	+2.7
34	60.0 59.2	25		34 36 38	43.8 41.1	02		34 36 38	31.6	30.4	20		34 36 38	45.5 44.9	58 59	
36 38	61.0 60.2	24 25		30	42.6 40.0 42.2 39.9	04		38	31.5	30.5 30.2	20 20		38	44.6 44.1	59	Ì
40	63.5 53.3	27		40	40.8 38.9	06		40	31.3	30.I	20		40	45.0 44.2	59 58	
42	60.8 59.8	24 25	<b>L20</b>	42	40.5 39.0 39.2 37.8	06 08	+4.1	42 44	31.3	30.2 30.9	20 10	+3.9	42 44	44.9 44.3 44.3 43.6	19 58	+2.5
44 46	60.5 59.3	24	+3.9	44 46	37.1 35.9	11	4.1	46	32.5	31.4	18	13.9	46 48	43.3 42.6	10	' - '
48	62.1 60.9	22		48	37.6 36.5	10		48	32.0	31.0	19 19		48 50	42.6 4I.9 4I.9 4I.2	02	
50 52	62.3 61.1	22 2I		50 52	37.5 36.4 37.7 36.8	10		50 52	32.I 32.7	31.4 31.8	18		52	41.1 40.3	04	
54	62.5 61.8	21		54	38.1 37.2	09		54	33.0	32.1	17		54	40.3 39.6	06	
56 58	63.6 63.1	20		56 58	38.7 37.6 39.0 38.0	09	,	56.3 58	32.5 32.1	31.7 31.2	10		56 58	39.5 38.5 38.0 37.4	07 09	
00	64.4 63.9	19	+4.0	15 00	38.3 37.6	09	+3.8	17 00	31.8	30.8	19	+3.6	19 00	Missed		
02	64.4 63.9	18		02	37.9 37.3 37.4 36.7	10		02	31.8	30.9 31.5	19		02 04	38.0 37.5 39.0 38.6	09	+2.5
04 06	64.2 63.7	19		04	37.4 36.7 37.1 36.2	11		<b>o</b> 6	32.4	31.8	18		06	40.0 39.5	06	
o8	63.4 63.0	19		08	36.8 35.7	12		08	32.8		18		08	40.9 40.3	05 04	
IO I2	61.0 60.8	23 22		10	35.2 34.8 34.8 33.9	14		IO I2	33.0 33.1	32.6 32.8	17		12	42.0 41.3	03	
14	60.5b	24		14	33.9 32.7	16		14	34.0	33.7	15	+3.4	14	42.0 41.2	03	+2.4
16	59.0 58.8	26	+4.0	16	32.1 31.1 31.9 30.8	19	+3.5	16	34.8 35.2		14 14		16 18	42.2 41.4	03	
18 20	60.5 60.2 61.5a	24 22		20	31.1 30.3	20		20	34.6	33.9	15		20	42.9 41.8	02	
22	65.8 65.3	16		22	30.9 29.9	21		22 24	35.0	34.2	14		22 24	43.6 42.3	20 00	
24 26	68.50	15 11		24 26	31.3 30.2 32.0 30.8	20 19	1		36.6	34·9 35·7	12		26	45.1 43.9	19 58	
28	70.4 70.0	08		28	31.1 30.2	20		26 28	35.6	35 <i>.</i> 7	12	1.0.0	28	46.0 44.6	57	
30	70.5 70.2	08	+4.0	30 32	30.8 30.3 30.7 30.0	20 2I	+3.4	30 32	37.0	36.0 37.0	II IO	+3.3	30 32	45.3 43.8 45.0 43.8	58 19 59	+2.
32 34	72.9 72.3 73.3 73.0	05 04		34	29.8 29.0	22		34 36	39.2	<b>38.o</b>	08		34	44.6 43.1	20 00	
34 36 38	73.7 73.1 71.8b	04 06		36 38	30.2 30.0	2I 20		36	40.5 41.9		06		36 38	45.2 43.3 45.3 43.3		
38 40	69.8 69.3	00		40	30.9 30.5 31.4 30.8	20	1	40	43.5	42.8	20 OI		40	44.2 42.2		
42	70.1 69.5	09		42	32.0 31.9	18		42	45.0	44.5	19 58 58 58		42	43.8 42.0		
44	69.5 69.1	10 08	+4.0	44 46	32.7 31.8 33.0 31.9	18	+3.5	44 46	45·3 45·0	44.8 44.3	58	+3.1	44 46	42.2 40.2 41.5 40.0		
44 46 48	70.5 70.0 67.0 66.0	14	7-4.0	48	33.I 32.0	17		48	45.0	44.I	58	'	48	41.3 40.3	04	
50	69.3 68.7	10		50	33.4 32.0	17		50 52	45.1 44.9	44.2 43.9	58 59		50 52	40.1 38.9 38.4 37.6		1
52	70.2 69.8 66.0 65.4	09 16		52 54	33.4 32.I 33.I 3I.9	17		54.2	45.3	43.9	58	+	54	37.7 37.0	10	
50 52 54 56 58	63.3 62.7	20		54 56 58	33.1 32.0	17		54.2 56 58	45.3 45.8 46.6	44.9	57		54 56 58	37.7 37.0 37.6 37.0	10	1
58	63.8 63.1	19		58	33.0 31.8	18		58	40.0	44.9	57		50	37.3 36.8	IO	

Observers—W. J. P. and A. F., who alternated from 12h 48m to 12h 58m.

Observers—A. F. and W. J. P., who alternated from 17h 46m to 18h oom.

### Tabulation of magnetic declinations observed at Alger Island Station-Continued

Wedr	nesday, July	5, 1905			Ma	ignet s	cale inve	erted	Thur	sday, J	July 6,	1905				Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sc. read Left		East decli- nation	Temp. C.	Chr'r time	reac	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scread read	ings	East decli- nation	Tem <sub>I</sub>
h m	d d	° ,		h m	d	d	0 ,		h m	d	d d	0 /	+8.0	h m	d	d	0 ,	0
20 00 02	37.1 37.1 38.6 37.7	20 IO 09	+2.2	22 00 02	26.0 27.3	23.5 25.3	20 29	+2.0	16 00* 02	38.0 37.0	38.5 38.3	19 14 14	70.0	02	64.3	66.6 66.6	18 17	+7.0
04 06	39.0 38.0	08 08	1	04 06	27.3	25.3	27 21		04	34.7	37.1	11		04 06	67.4	69.3	21	
08	39.6 38.6	07		80	30.9 28.5	29.0 26.5	25		06	34.3	35·3 38·0	09		08*	72.0 37.0	74.6 43.6	29 36	43.7
10	39.6 38.8	07	İ	10	31.0	29.0	21		10	36.6	41.4	16		10	39.0	45.6	39	ž.
12 14	38.0 36.6 39.0 38.0	08	+2.1	12 14	33·5 33·5	32.0 32.5	17 16	+2.0	12 14	32.0	33.0 12.0	19 06 18 32	+7.8	I2 I4	41.8 36.6	48.0 42.6	43 34	+6.5
16	39.0 38.2	08	•	16	33.0	32.0	17		16	6.8	7.6	26	17.5	16	27.6	37.8	23	10.5
18 20	39.8 38.4 35.1 34.3	07 14		18	29.6 29.6	28.6 28.6	22 22		18	12.2	16.2 29.8	18 56		18 20	28.2 37.8	36 <b>.5</b> 44.5	23 37	
22	35.0 32.5	14 16		22	30.0	29.1	22		22	35.5	41.3	19 15		22	36.8	43.4	35	
24 26.5	27.5 26.0 23.6 22.0	26 33		24 26	35·5 37·9	34·3 36.8	13		24 26	32.6 34.0	38.6 39.3	10 12		24 26	23.3	30.5 31.2	I4 I5	
28	24.5 23.6	31		28	36.5	35.7	12		28	38.4	43.5	19		28	23.2	29.4	14	
30 32	23.3 22.6 29.5 28.3	32 23	+2.0	30 32	37·4 39·4	36.6 39.0	10 07	+2.0	30 32	47.3	53.6 60.3	34	+7.5	30 32	20.7	26.2 22.0	09 02	+6.0
34	31.5 31.3	19		34	38.3	35.9	10		34	54.4	60.0	44 45			19.2	25.0	02	
34 36 38	34.7 34.6 42.0 40.4	14		34 36 38	39.0	32.6	20 I0		34 36 38	48.9	55.0	36 28		34 36 38	18.3	23.3	18 05	
40	17.6 11.4	20 46		40	39·3 44.6	35.6 40.0	02		40	45.0 48.3	48.0 50.0	32		40	11.5	17.3 10.6	17 55 48	
42*	50.6 30.8	21 11	100	42	45.2	42.0	20 00	100	42	54.5	58.8	43		42	12.3	17.2	17 55	
44 46 48	45·3 35·5 49·5 37·3	11 07	+2.0	44 46	50.0	46 <b>.0</b> 53.0	19 53 44	+2.0	44 46	48.8 48.6	51.5 51.5	33 33	+7.4	44 46	16.9	19.3 21.5	18 01	+5.6
48	55.6 39.4	21 00		48	55.8	53.0	19 43		46 48	59.8	62.6	51		48	20.0	24. I	07	
50 52	53.0 47.8 72.5 61.5	20 56		50 52	43.9	41.7 47.3	20 OI I9 5I		50 52	53·5 56.0	56.0 59.3	40 45		50 52	22.8	27.0 34.6	11 23	
52 54*	56.2 42.6	20 12		54 56	50.0	47.8	52		54 56	56.3	59.0	45		54	25.0	28.6	14	
56 58	62.6 55.0	19 57 47		50 58	49.5	47·5 46·4	52 54		50 58	57.2 63.9	59.8 66.0	46 19 <b>5</b> 6		56 58	21.0	24.I 29.0	08 15	
21 00	80.0 63.0	37	+2.0	23 00	48.6	46.8	53	+2.0	17 00	73.8	74.6	20 11	+7.2	19 00	35.0	37.3	U 29	+5.3
02 04*	73.8 61.3	43 27		02 04	50.5	49. I 49. 2	50 50		02* 04	56.2 56.0	58.8 57.5	12 11		02 04	49.0 58.0	52.5 67.6	18 52 19 11	
оĠ	68.0 58.0	29		<b>o</b> 6	48.2	47.0	54		06	48.8	56.2	03		06	67.7	71.5	21	
08 10	64.9 56.3 61.0 53.0	33 39		80	50.0 47.3	49.2 46.3	50 19 55		08 10	54.0 50.0	57·4 58.2	10 20 07		08 10*	73.5 38.6	79.0 49.6	32 45	
12	52.6 45.2	52		12	42.3	41.0	20 03		12	34.3	44.5	19 44		12	44.5	49.5	50	
14 16	53.8 45.6 43.8 36.5	19 50 20 05	+2.1	14 16	35.0 33.0	34·3 31·3	14 18	+2.0	14 16	35.6 35.3	48.0 48.0	48 48	十7.3	14 16	48.0	53.0	55 58	+5.2
18	23.0 19.0	35 48		18	35.0	33.6	14		18	24.8	36.6	30		18	50.0 42.6	54.6 58.6	55 55	
20 22	16.0 10.0 21.0 14.5	48 41		20 22	38.3 34.2	37.0 32.6	09 16		20 22	26.9	37⋅3 ost	33		20	30.0	35.0	27	
24	16.0 10.5	48		24	30.3	28.0	22		24	27.0	37.6 18.0	33		22 24	28.0 23.0	32.0 24.9	23 13	
26 28	17.0 10.3 41.6 36.3	47 07		26 28	30.3	28.3	22 18		26 28*	16.3	18.0 28.0	19 09 18 54		24 26	14.3	17.1	19 00	
30	39.8 32.0	12	+2.1	30	29.3	31.0 28.0	23	+2.0	30*	Lo	st		+7.2	28 30	9.3 14.7	12.3 31.4	18 53 19 12	+5.2
32	34.7 24.3 31.0 26.0	22		32	32.0	30.6	19		32	Lo	st			32	26.3	32.3	22	' '
34 36	33.0 28.0	24 20		34 36	11.6	23.0 11.3	31 50		34 36	8.0	35·5 18.0	18 20 17 54		34 36	40.6 38.6	44·3 42.2	42 39	
38	29.8 24.3	26 33		38	IO.	.ob	52		38	8.8	I2.I	50	i i	38	37.1	37.6	·~ 34	
40 42	32.3 27.2 37.3 33.3	22 13		40 42*	11.0	.5b 9.0	20 47 21 00		40* 42	40.0	46.6 46.5	42 42	ļ.	40 42	34·4 36.8	36.4 38.6	31 35	
44	34.5 31.0	17	+2.0	44	9.5	7.0	02	+2.0	44	32.6	38.8	30		44	36.0	38.6	34	+5.4
46 48	33.3 30.0 31.5 28.3	19 21		44 46 48	11.2 13.2	7.8 10.6	21 OI 20 57		46 48	23.7	28.6 27.8	14 14	+7.1	46.6 <b>48</b>	22.0 16.3	22.9	11 <b>0</b> 4	
50	20.6 26.6	24		50	9.3	5.5	21 04		50	36.5	41.9	36		50	17.5	18.5	19 04	
52 54	28.6 25.6 28.0 25.3	26 26		52* 54	28.0 26.0	19.7	10 12		52 54	46.4 49.2	51.3 52.0	51 54		52	8.:	2b	18 49	
52 54 56 58	28.2 25.3	<b>2</b> 6		54 56 58	32.3 23.8	25.4	02		54 56	50.5	54.3	54 17 56		54* 56 58	37·3 42.9	50.6	27 18 36	
50	28.6 26.0	25		24 00	25.8	20.0	15 11		58	50.0	60.4	18 07	[]	58 20 00*	60.3	65.3	19 01	+5.6

Correction to local mean time is —49s. 90° torsion = 17.'77. Torsion head at oh 10m read 252° and at 24h 00m read 249°. Observer—W. J. P.

Correction to local mean time is + Im 02s. Torsion head at beginning and ending read 252°. Observer—W. J. P.

## Tabulation of magnetic declinations observed at Alger Island Station-Continued

Frida	y, July	7, 190	<b>P5</b>			Ma	agnet s	cale inv	erted	Sund	ay, Ju	ly 9, 1	905				Magne	t scale	erect
hr'r ime	Sca read Left	ings	East decli- nation,	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp.	Chr'r time	read	ale ings Right	East decli- nation	Tem C.
m	d	d	0 ,	0	h m	d	d	0 ,	•	h m	d	d	0 ,		h m	d	d	0 /	•
00*	31.9 35.0	30.0 33.3	20 55 50	+10.2	22 00 02	50.8 45.4	47·3 42·9	18 45 18 52	+9.0	0 00*	29.0	29.3 30.8	20 I8 20		2 00 02	38.3 38.0	39.0 38.8	20 33	+4.1
04	36.3	34.6	48		04	36.0	31.6	19 09		04	30.3	32.5	23		04	33.8	34.8	32 26	
06 08	37.6 45.7	36.6 44.0	45 33		06 08	29.8 23.2	26.3 19.8	18 28		06 08	32.8	33.4	24		06 08	29.8	29.9	19	
10	48.2	46.8	29		10	22.5	19.6	29		10	33.2	33.6 30.1	25 19		10	23.0	23.6 21.6	09	
12.5 14	53·3 56.6	52.0 54.3	21 16	+10.5	12 14	25.4	22.0 21.0	25 26	+8.6	12	29.0	29.6	18	14.7	12	19.1	20.3 22.6	03 07	+4.
16	55.6	54.0	18	1 -0.5	16	22.3	19.0	30	1000	14 16	27.0 25.8	27.3 26.0	15 13	+4.1	14 16	21.3	22.I	20 06	74.
18 20	53.6 57.0	52.0 55.2	2I I5		18 20	19.0	14.2 9.5	36		18	24.6	25.6	12		18	15.6	17.5	19 58	
22	55.0	52.6	19		22	10.3	7.8	44 48		20 22	20.9	21.7 24.2	06 10		20 22	12.4	13.8 15.3	53 55	
24 26	50.6 48.6	48.8 48.0	26 28		24* 26	44.0 34.5	36.0 27.0	19 53 20 07		24 26	27.2 28.3	27.8	15		24 26	15.2 20.8	17.9	19 58 20 05	
28	46.6	45.2	32		28	28.0	22.2	16		28	25.3	29.0 26.0	17 12		28	23.6	21.3 25.8	20 05	
30 32	49.5 50.4	47.8 49.3	27 25	+ 9.9	30 32	24.0 24.6	18.1	22 2I	+8.2	30	24.6	-	08	+4.2	30	29.8	31.8	21	+4.8
34	51.3	49.7	24		34	24.2	19.2	21		32 34	22.6	23.3 24.2	10		32 34	34.6 39.6	38.0 42.4	29 37	
<b>3</b> 6 <b>3</b> 8	46.4 45.6	45.7 44.4	31 33	1	34 36 38	23.6 16.0	18.6 9.5	22 36		34 36 38	24.0	24.8	10		34 36	45.6	47.9	46	
40	43.2	42.2	36	-	40*	49.3	43.4	45		40	23.9 22.0	24.8 22.5	10 07		38 40	50.3 52.8	52.0 54.8	52 57	
42 44	39·4 37·5	37.8 36.3	43 46		42 44	63.8	56.6 56.3	23 24		42	24.0	24.3 26.1	10		42	53.2	55-3	57	
44 46	41.6	41.I	39		46	58.1	52.0	31	+8.0	44 46	25.9 24.0		13 10	+4.2	44 46 48	47·3 53·3	50.5 56.2	20 58	+5.0
48 50	47.0 45.8	46.0 44.0	30 33		48 50	61.4	56.0 56.5	25 25		48 50	27.8	28.0 24.8	16		48 50*	53·3 74·8 33·8	83.6 39.8	21 36 36	
52	44.2	42.3	33 36		52	61.5	56.2	25		52	24.0	23.9	IO		52	34.6	38.3	36	
54 56	42.6 39.4	40.6 37·3	38 43		54 56	52.7 55.6	50.7 51.2	29 34		54 56	26.6 28.3	27.2 28.6	14 17		54 56	46.6 43.0	54.0 48.8	58 51	
58	36.5	34.7	43 48		58	54.6	50.2	35		58	20.3	29.8	18		58	36.3	41.5	40	
00 02	34.0 28.2	33.2 26.5	20 50 2I 0I	+ 9.8	23 00 02	52.8 58.6	49·3 55.6	37 28	+7.6	I 00 02	26.9 24.0		15 10	+4.2	3 00	31.3	36.6	32	+5.0
04	29.3	28.3	20 58	, ,	04	65.3	61.4	18	ľ	04	22.0	22.5	07		04	31.3 25.6	37·3 30.6	33 23	
o6 o8	30.6 27.0	29.5 26.0	20 56		06 08	66.1	63.0	16 20		06 08	19.6	20.2 19.0	03 02		06 08	26.0 20.1	30.5 22.3	23 21 12	
10	26.6	25.2	21 03		10	65.0	61.5	18		10	18.3	19.3	02		10*	38.0	42.3	20 52	
12 14	31.8	30.2 30.7	20 55 54	+10.0	I2 I4	62.3	59.8 68.5	20 08		12 14	20.5 24.6		05 11	+4.0	12 14	47.6 45.2	51.9 49.4	21 07	+5.
16	30.3	29.9	56		16 18	78.1	76.0	19 57	+7.0	16	23.3	24.0	09	14.0	16	43.8	47.3	00	' ' '
18 20	29.0 28.2	28.0 27.0	20 59 2I 00		20	75·3 72·5	72.9 69.7	20 01		18	28.3		17 06		18 20	46.6	49.0 50.9	04 06	
22	27.0	26.3	02		22	68.1		13		22	23.0	23.5	09		22			18	1
24 26	22.0 20.0	21.4 18.2	09 14		24 26	74.0	72.0 78.0	20 03 19 54		24 26	25.5 27.4 26.5	25.9 27.0	12 16		24 26*	55.0 67.0 30.0	69.0 39.0	36 49	
28	24.0	20.6	08	1.70.0	28*	79.0 55.6 57.2 54.6	51.6	47	+6.6	26 28	26.5	27.9 26.6	14		28	34.4	43.0	55	
30 32	25.3 36.5	20.9 29.0	21 07 20 52	+10.0	30 32	54.6	53.6 51.2	44 48	7-0.0	30 32	23.2 19.5	23.6 20.2	09	+4.0	30	29.8	37.6 49.5	55 21 48 22 00	+5.
34	43.6	40.5	20 52 20 38		34 36	51.5	48.0	53		34	21.0	21.5	06		34	33.8 46.8	52.3 61.8	I2	
30 38	75·3 42.6	61.3 36.3	19 56 20 42		30 38	50.3 48.0	46.6 44.3	55 19 59		36	24.7 29. I	30.6	11 19		32 34 36 38 40	55.5	61.8	27	
40	43.2	39.8	38		40	46.0	43.0	20 OI		40	34.8 39.8	36.9	28		40	64.3 70.8	72.3 77.8	43 51	
42*	74.0 41.0	39.6 5.0	20 16 19 26	+ 9.4	42 44	47·3 47·0	44.0 44.3	00	+6.6	42	39.8	40.6 45.0	35 42	+4.I	42	64.0 52.3	71.2	22 41	1
28 30 32 34 36 38 42* 44* 46 48	54.8	50.6	18 39		44 46 48	44·3 36.8	44.I	02		34 36 38 40 42 44 46 48	44·3 46.8	45.0 48.0	47	' ' ' '	42 44* 46 48	45.3	59.0 53.1 62.0	23 OI 22 5I	1
48	58. <b>70.</b>	oa sb	31 11		48 50	30.8 27.5	33.6 25.5	16 30		48	50.6	51.9 52.6	53 54		48	58.6	62.0	23 08	
49.2 52	41.	3b	18 57		50 52	24.0	21.6	35		52	49. I	50. I	50		52	24	55·7	23 0I 22 I2	
54	20.5 18.8	16.5	19 33		54 56 58	26.3 34.0	23.4 31.0	32 20		50 <b>52</b> <b>54</b> 56 58	47·3 45.6	47.9 46.6	47		50 52 54* 56 58	47.0	58.8	21 30	
52 54 56 58		30.5	34 14		58	31.0	29.2	24 28	.	58	42.3	43.8	44 40		58	20.3 55.0	33.0 68.0	20 49 21 43	
_					24 00	28.2	27.0	28	+7.0										

Correction to local mean time is — 0.3s.

Torsion head at beginning and ending read 252°.

Observer-W. J. P.

Observer—W. J. P.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Sunda	3y, July 9, 19	05			Ма	gnet s	cale inv	erted	Mond	ay, July 10	0, 19	905			1	Magno	et scale	erect
hr'r me	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp.	Chr'r time	Scale readings Left Rigi	1	East decli- nation	Temp.	Chr'r time	Scal readin	ngs	East decli- nation	Tem C.
m	d d	· ,	0	h m	d	d	· ,		h m		d	· ,	0	h m	d	d	٠, ،	
00 02	21.8 15.2 40.1 20.1	22 26 93	+6.0	6 00	66.0	60,4 62,3	20 50 45	+ 7.8	8 00	Lost 52.0 54.	٥.	20 56	+13.0	10 00	39.8 41.0	39-9 44.0	20 34 38	+13.
04*	30.5 26.2	22 00		04 06	69.0 72.5	67. I 71.7	39		04	42.8 45	.3	42		04 06		33.8 44.4	24 40	
06 08	62.8 61.8 61.1 54.3	2I I2 I9		· 08*	51.3	46.I	33 24 18		06 08	53.8 55	.6	59 59		08	41.5	46.0	20 40	
IO I2	49.04 56.1 55.5	33 22		10	54.0 57.3	49.8 55.5	11		IO I2	49.0 50. 52.6 55.		51 57		I0 I2		13.6 34.8	19 51 20 24	
14	47.8 43.5	38	+6.5	1 <u>4</u> 16	03.4	60.0 58.5	03 05	+ 8.0	14 16	46.2 47	.8	46	+12.7	14 16	30.2	33.0 42.8	2I 3I	+13
18 16	36,1 31,2 15,0 12.5	21 57 22 28		18	60.5	56.5	૦૪		18	46.5 48.	٠5	37 20 47		18	41.2	42.8	37	
20 22	18.7 14.2 32.2 30.1	24 22 QI		20 22	54.8	51.0 45.8	17 25		20.3	54.8 56 44.0 45		21 00 20 43		20 22		48.4 48.0	46 45	
24	50.0 48.2	21 33		24 26	50.0 51.1	46.0	25 22		24 26	51.8 54	.3	56		24 26	41.9 35.2	46.0 37.8	40 29	
26 28	32.2 31.1 14.5 13.8	22 00 28		28	48.3	47·7 45·1	27		28	59.9 60	.0	20 32 21 07		28	44.0	47.0	43	
30* 32	48.1 43.7 41.9 32.0	33 22 47	+6.7	30 32	47.8 41.0	44.8 38.0	27 38	+ 8.3	30 32	47.3 50 43.7 44		20 49 41	+12.5	30 32	21.6	24.2 25.3	07 07	+14
34	15.3 12.8	23 23		34 36	31.0 18.9	27.3	20 54 21 13		34 36	37.8 40	.2	34		34 36	28.0	31.0 38.6	18 29	
36 38*	Lost 55 5 <i>a</i>	23 12		38	9.8	7.5	26		38	36.5 38 33.3 34	.8	32 26		38	35.9	37.3	29	
40* 42	53.5 49.8 62.5 56.4	22 I2 00		40* 42	33.5	35·5 23·4	38 21 53		40 42	31.9 33 30.1 31		24 20		40 42	26.2 37.1	28.0 38.8	14 30	
14	57.0 52.3	07	150	44	25.5	21.6	22 0I 21 58	+ 8.7	44	28.7 29	.7	18	+12.5	44	41.2	41.8	36 21	+14
46 48	50.3 45.0 52.4 49.9	18	+7.2	46 48	29.0 22.I	22.3 13.8	22 10		46 48	31.2 32 33.4 34	.0	22 25		46 48	31.3 29.1	32.3 29.2	17	
50 52	55.0 40.0 46.4 42.0	18		50 52*	15.8 48.0	9.0 44.8	18		50 52	26.2 26 34.5a	.8	14 26		50 52	32.5 32.9	35.0 33.9	24 23	
54	61.1 55.0	22 02		54	65.8	63.5	21 53		54	45.0 46		44 18		54 56	39.6	42.0	35	
56 58	74.0 72.0	2I 54 38		54 56 58	59.0 58.2	57 · 4 53 · 6	22 03 06	+ 9.1	56 58	29.0 29 42.0 43	.6	18 40		56 58	43.8	46.0	54 41	
00* 02	51.1 44.0 55.0 47.6	25 19	+7.2	7 00 02	59.8 64.5	57.0 61.3	22 02 21 55		9 00 02	40.8 40 39.3 39	.8	- 36	+12.9	II 00 02	26. 22.6	0b 24.0	12 07	+15
04	38.8 32.7	21 44	17.2	04	69.2	66.3	48		04	33.6 34	8	34 26		04	29.8	34.2	21	
06 08*	19.2 14.5 43.0 37.3	22 13		06	79.1 78.1	77.0 74.4	32 35		06 08	35.9 36 30.4 30	1.8	29 20		06 08	39.2 17.2	42.5 21.6	35 20 OI	
10 12	33.7 30.1 56.8 48.7	42 22 09		10* 12	44.0	39·3 42·1	31 27		IO I2	33.6 33 25.5 25	.8	25 12		10 12	6.9	9.9 20.3	19 44 20 02	
14	70.2 61.8	21 48		14	48.7	45.I	23	1.	14	25.3 26	.3	13	+13.1	14	18.5	20.5	IQ	
16 18	72.2 69.8	40	+7.4	16	46.4		27 28	+ 9.4	16	52.0a 65.0b		20 54 21 14		16	22.6 17.		20 08 19 58	
20 22	70.5 68.0 67.89	43 45		20 22	41.3 42.9		33 31		20 22	27.8 29 45.1 45	9.6	20 17 20 43		20 22	14.3 27.0	17.1	19 55 20 17	
24	74.0 72.4	37		24	45.8	42.9	27		24	57.2 59	1.2	21 03		24	37.1	38.5	30	
26 28*	77.5¢ 42.4 34.8	30 25		26 28	44.2 46.5	42.0 45.0	29 25		26 28	44.5 45	.7	20 42 43		26 28	37.1 36.4 20.3 27.6	30.8 22.6	28 04	. ]
30 32	38.6 33.0 37.8 32.6	30 31		30 32	46.5 48.2 48.0	47.0 47.5	22 22		30 32	48.1 49 43.0 43	).5	43 48 39	+13.5	30	27.6 36.2	28.0 37.0	14 28	+1
34 36	39.0 33.2	29		34	48.9	48.3	21		34 36	35.6 36	າຮ	29		34	25.7	28.9	13	
38	42.9 38.2 45.1 40.3	22 19		36 38	50.7 50.0	47.8	18 20		38	37·7 39 28.6 31	1.0	32 19		34 36 38	25.0 2I.0	26.8 22.0	04	
40 42	45.1 40.3 48.5 43.3 54.5 49.1	14		40 42	57·3 70.8	53.8 65.2	21 10 20 50		40	40.9b 32.50	- 1	19 36 23		40 42	24.2	25.2 32.1	09 20	
44	55.6 51.8	21 02	+7.4	44	79.0	74·3 37.8	37	+ 9.8	44 46	47.5 48 34.8 37	3.4	47	+13.6	44	30.5 32.8	34.0	23	+1
40 48	57.0 53.4 58.0 54.5	20 59		46* 48	79.0 47.0 37.8	37.0 29.4	20 52	i	48	37.8 40	0.2	28 33		48	30.0 25.1	31.6 26.1	10	
44 46 48 50 52 54 56 58	56.1 53.9	21 60		50 52	28.8	20.7			50 52	43.0 44	.3 2.0	40		50	29.3 26.8	30.3 27.6	17	<b>,</b>
5 <u>4</u>	57.8 55.0 59.5 57.0	55		54	20.7	11.8	19	, !	54	38.3 38	3.8	37 32		54	24.4	25.4	09	
56 58	60.4 58.8 58.6 57.8	52		46 58*	23.9 61.0 58.8	17.0 43.2	30		54 56 58		3.a 7.6	30 30		44 46 48 50 52 54 56 58	24.4 27.3 28.6	28.2 29.8		
_				8 00	58.8	43.2						_		13 00	30.3	31.1	18	3

Correction to local mean time is - 3.0s.

Torsion head at beginning and end read 252°.

Observers—W. J. P. and A. F., who alternated from 4h 04m to 4h 14m.

Correction to local mean time is —4.6s. 90° torsion = 17.787. Torsion head at 8h oom read 252° and at 12h 15m read 267°. Observer—W. J. P.

## Tabulation of magnetic declinations observed at Alger Island Station-Continued

Tueso	iay, July 11,	1905			M	agnet s	cale inv	erted	Wed	nesday, July	12, 1905			M	agnet sca	e erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale reading Left Ri	s decli	- Tem
h m	d d	0 ,	0	h m	d	d	• ,		h m	<u>d</u> d	0 ,	0	h m	d	d °	, ,
02	61.0 24.5 46.6 43.4	20 17 14	+12.1	I4 00 02	39.3	39.3 39.1	20 23	+11.5	0.00*	Lost 37.1 43.5	20 16	+6.8	2 00		6.9 20 5 6.8	7  十7・1 7
04 06	44.5 41.3 44.0 41.6	17		04 06	39.6	39.0	23		04	36.6 42.5	14	1 0.0	04	61.8b		0
<b>o</b> 8	44.5 42.0	17		08	39·5 40·0	39.0 34.5	23 26		06	36.2 41.9 37.0 42.1	I4 I4	ĺ	06 08			3
IO I2	46.0 43.6 46.4 44.0	I4 I4		I0 I2	42.5 44.6	42.I 44.4	18 15		10	37.1 42.1	15		10	57.0 6	3.0	7
14	44.6 42.6	16	+12.5	14	45.4	44.9	14	+11.7	12 14	37.5 42.0 37.8 42.5	15		I2 I4		_   ~	60  4
18 16	44.8 43.0 45.3 43.6	16 15		16 18	46.0	45.5 45.6	13 12		16 18	39.1 43.3	17	+6.8	16 18	54.9 5	5.o   3	9 +7·
20	44.0 43.2	16		20	43.6	43.3	16		20	39.9 44.3	19		20		5.0	8
22 24	46.2 44.9 48.0 47.0	13		22 24	43.3 43.8	43.1 43.6	17 16		22 24	38.1 40.8 37.8 41.0	15 14		22 24	54.I 5	5.5	8  2
26 28	48.0 47.0 Lost	10		26 28	45.3	45.I	14		26	36.5 39.7	12		26	64.0 6	5.0	4
30	47.0 46.2	11	+12.3	30	46.8	46.4 47.0	II	+12.0	28 30	35.8 38.2 36.4 39.2	10 12	+6.9	28 30		5.1	4 6 +7.4
32 34	47.6 46.6 46.6 45.6	I0 I2		32	47.4 48.0	47·4 48.0	10		32	38.0 40.6	14		32	65.9 6	5.8	6
36	47.9 47.0	10		34 36	43.7	43.5	09 16		34 36	38.3 41.2 38.8 41.0	15 15		34 36 38	64.5 6 64.8 6	5.8   5	4
38 40	52.8 52.1 50.8 50.6	02 05		38 40	47.0 45.5	46.8 45.1	11		38	37.9 39.9	14 11		38	64.0 6	4.9 5	4
42	50.8 50.3	05		42	45.0	45.0	14		40 42	33.7 35.1	06		40 42		3.7	2
44 46	43.0 42.7 51.8 51.5	20 04	+12.3	44 46	45.2 45.7	45.2 45.5	14	+12.0	44 46	31.9 33.8 30.8 32.3	04 02	+6.9	44			2 5 +7.3
48	56.1 55.8	19 57		48	46.0	45.5	13	, ==	48	30.5 32.0	OI	70.9	46 48	64.0 6	1.4 5	3
50 52	54.5 54.1 57.0 56.3	19 56		50 52	44.5	44·3 43.6	15 16		50 52	30.3 32.0	0I 02		50 52		1.8 5 5.0 5	4
54	51.0 50.6	20 05		54	43.3	42.7	17 16		54	30.4 31.8	OI		54 56	65.7 6	5.5 20 5	
56 58	51.7 51.3 52.2 52.0	04		56 58	43.5	43.I 41.7	18		56 58	30.I 3I.2 29.I 30.4	20 00 19 59		56 58		3.8 21 c	
00	54.3 54.0 48.0 48.0	00	+12.1		41.6	40.9	20 19	+11.8	I 00	28.1 29.2	57	+6.8	3 00	73.7 7	3.7	8 +7.3
04	50.0 50.0	06		04	42.2	41.5 42.6	17		02 04	28.0 29.3	57 57		02 04			9 0
o6 o8	47.6 47.0 48.5 47.8	10 09		o6 o8	42.7	42.3 41.6	18		06 08	26.0 26.8	54 52		06 08	75.0 7	- 1	0
IO	49.2 48.8	08		10	42.0	41.5	19		10	25.I 25.9 24.2 25.0	51		10	76.5 7	7.3	3
12 14	48.1 47.6 48.5 48.2	09	+12.0	I2 I4	43.0	43.0 42.6	17		I2 I4	23.9 24.5 22.9 23.3	50 49		I2 I4*		9.5	6
16	43.4 42.7	17		16	42.I	41.3	19	+11.5	15	22.2 22.8	48	+6.8	16	38.2 4	3.1	6 +7.2
18 20	47.3 47.0 46.5 46.1	10 12		18 20	40.8	40.1 40.2	2I 2I		18	22.0 22.5 21.5 22.0	47 46		18	1		18 24
22	46.0 45.6	12		22	42.0 42.2	41.6	19 18		22	22.5 23.0	48		22	46.4 5	0.2 2	28
24 26	45.6 45.2 45.1 44.4	I3 I4		24 26	41.6	41.2	20		24 26	23.6 24.1 24.7 25.0	50 51		24 26	48.2 5	1.8	3I 3O
28	44.6 44.0	15	+11.5	28 30	40.9	40.2 41.0	2I 20	+11.3	28	25.0 25.4 26.0 26.3	52	+6.7	26 28 30	48.2 5	1.8   3.1	31
30 32	42.7 42.2	15 18	711.5	32	41.0	40.3	21	111.3	30 32	26.1 26.9	54 54	T0.7	32	44.0 4	9.6   2 6.9   2	8  +7. 3
34	43.5 43.0 44.2 43.7	17		34 36	44.6 43.6	41.1 43.1	17 16		34 36	26.6 27.2 27.2 28.0	55 19 56		34 36		6.2   2	22
36 38	43.I 42.5	17		38	43.8	43.3	16		38	29.9 30.8	20 00		38	44.1 4	7.1 2	25 24
40 42	42.6 41.6 41.2 40.4	18		40 42	43.6	43.1 42.6	16 17		40	31.4 32.1 31.5 32.3	02		40 42	44.9 4 45.6 4	7·5   3	25   26
44	39.6 39.2	23		44	42.3	42.I	17		42 44 46.5	34.2 35.0	07	+6.8	44 46	50.6 5	3.0	34
44 46 48	40.4 39.8	22 2I	+11.4	46 48	44.3	.0a 44.3	15 15	+11.5	46.5	36.0 36.8 38.3 <i>a</i>	10		46 48		4.5 8.3	34 36 +7.
50	40.3 39.9	22		50	42.5	42.5	15		50	43.0a	20		50	42.8 4	5 - 5	15
52 54	41.0 40.4 40.3 39.9	2I 22		52 54	41.6 42.0	41.6 42.0	19 18		52 54	47.4 48.5 53.8a	28 37		50 52 54 56			16 15
52 54 56 58	44.2 43.9	15		54 56 58	43.0	42.6	17		54 56	53.8a 58.4a	44			38.7 4	0.6	14
58	39.0 38.6	23		16 <b>00</b>	42.7 43.8	42.5 43.5	18	+11.8	58	64.20	53		58	39.0 4	1.0	15

Correction to local mean time is — 10.5s.

Torsion head at 12h oom read 249° and at 16h oom read the same.

Observer-W. J. P.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Wedi	nesday, July	12, 1905			Magr	et scale	erect	Wed	nesday, July	12, 1905				Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem C.
h m	d d	. ,	0	h m	d d	0 ,		h m	d d	0 /	•	h m	d	d	0 ,	•
00	42.5 44.0 42.5 43.9	2I 20 20	+7.1	6 00	12.8 13.8 19.1 20.1	20 33	+5.4	8 00	26.5 27.0	20 54	+7.I	10 00	47.0	48.2	20 31	+ 6.
04	39.0 41.2	15		04	18.0 18.7	43 41		02 04	2I.3 22.3 27.8 29.0	46 57		02	44.2	45.2 41.2	26 20	
o6 o8	40.7 42.8 44.8 46.6	18 24		06 08	12.9 14.0 24.5a	20 5I		06 08	29.0 29.5 28.0 28.5	58 20 56		06 08	45.0 53.1	47.2 53.6	28 40	
IO I2	42.6 44.5	20 20		10 12	35.4 37.5 27.8 28.4	2I 09 20 56		10	30.3 31.3	21 00		10	51.5	52.6	38	
14	42.4 44.5 39.8 4I.5	16	+7.0	14	32.3 33.3	21 04		12 14	27.0 <i>b</i> 28.4 28.6	20 54 57	+7.0	12 14	47.0 45.3	48.3 46.0	31 28	+ 7
16 18	37.8 39.0 39.6 40.8	12 15		16	35.0 36.0 36.1 37.0	08		16 18	28.2 28.6 30.3 30.8	20 57 21 00		16 18	42.0 43.5	42.8 43.8	23 24	
20	41.8 43.0	19		20	35.1 36.1	08	+5.5	20	32.6 33.6	04		20	46.6	46.8	29	
22 24	44.0 44.9 46.2 47.1	22 25		22 24	36.1 36.9 43.5 44.9	10 22		22 24 26	30.8 31.7 28.8 29.8	21 01 20 58		22 24	47·3	47.8 45.4	31 27	
26 28	47.0 47.4 44.3 45.2	26 22		26 28	40.3 41.0 44.8 45.1	16 23		26 28	31.0b 22.2 23.6	21 01 20 48		26 28	43·9 45·3	44·3 45·9	25 28	
30	44.2 45.2	22		30	40.1 41.1	16	+5.5	30	27.6 28.6	56	<del>+</del> 7.0	30	45.5	45.9	28	+ 7.
32 34	43.7 44.9 42.5 44.0	22 20	+6.9	32 34	46.0 46.1 42.0 42.5	24 18		32 34	24.4 25.3 29.3 3I.I	20 51 21 00		32 34	47.0	47·4 45.0	30 26	
34 36 38 40	37·I 39·4 3I·4 32·4	12 02		36 38	42.1 43.0	19 21		34 36 38	31.3 32.2 29.8 30.6	02 00		34 36 38	45·5 46.2	45.5 46.6	28	
40	32.6 33.0	04		40	39.5 40.5	15		40	32.4 33.6	21 04		40	43.I	44.3 38.8	29 25	
42 44	32.3 34.0 35.2 36.8	04 09		42 44	46.0 46.7 39.7 41.3	25 16	+5.7	42 44	29.0 30.6 29.0 29.6	20 59 58	+7.0	42 44	38.5 40.0	38.8 40.3	17	+ 8.
44 46 48	34.9 37.0	08	+6.7	46	40.1 40.5	15		44 46 48	26.0 26.6	54	17.0	44 46	40.I	40.5	19	
50	32.9 35.0 32.7 34.4	05 05		48 50	39.9 40.1 38.3 38.5	15 12		50	25.8 27.0 23.8 24.2	54 50		48 50	41.5 43.6	42.5 44.1	22 25	
52 54	30.5 32.0 32.9 33.9	01 04		52 54	45.0 <i>b</i> 36.8 37.3	23 10	,	52 54	23.3 24.6 24.0 24.5	50 50		52	42.3 45.0	42.9 46.9	23 28	
54 56 58	33.5 34.9	06		56	36.2b	09 08		54 56	24.3 24.6	50		54 56	45.2	46.8	28	
00	35.2 36.2 35.6 37.0	08 09	+6.2	58 7 00	35·3 35·3 32·0b	21 02	+6.1	58 9 00	23.0 23.2 21.2 21.5	<b>48</b> 46	+6.8	58 11 00	39.8 38.0	41.4 40.0	20 17	+ 9.
02 04	34.5 35.8 32.7 33.9	07 04		02 04	26.9 27.6 30.9 31.2	20 55 21 01		02 04	20.0 20.9 18.0 19.4	44 42		02	41.8 42.6	43.6 43.6	23	
06	31.8 32.9	21 03		06	31.5 31.8	21 02		<b>o</b> 6	18.7 19.0	42 38		04 06	37.5	38.5	24 16	
08 10	28.2 29.9 25.7 27.0	20 58 54		08 10	28.8 29.5 25.0 25.8	20 58 20 52		08 10	16.2 17.0 15.7 16.7	38		08 10	39.3 43.0	40.9 44.2	1 <u>9</u> 24	
I2 I4	25.0 26.2 26.5 27.8	52 55	+5.9	12 14	30.9 32.9 31.3 32.0	21 02	+6.9	12 14	14.2 14.8 15.2 15.6	35 36	+6.6	12 14	40.0 40.7	41.3 42.3	20 21	+ 9.
16	26.0 27.0	54	13.9	16	31.0 32.8	02		16	15.3 15.6	36		16	44.0	44.8	26	1 9.
18 20	26.2 27.0 25.1 25.1	54 51		18 20	29.8 32.0 24.6 26.1	2I 0I 20 52		18 20	17.0 17.5 22.9 23.6	39 48 38		18 20	45·5 44·3	46.3 45.1	28 26	
22 24	24.0 24.9 23.8 24.8	50 50		22 24	27.I 27.8 29.I 32.I	20 55 2I 00		22 24	16.0 17.3 7.8 8.2	38 25		22	42.5	43.3	23 23	
26	24.3 25.I	51		26	27.2 28.5	20 56		26*	43.2 44.8	25		24 26	42.7 41.2 37.6	43.1	21	
28 30 32 34 36 38	25.9 26.6 24.8 25.8	53 52	+5.6	28 30	28.9 30.3 25.2 26.3	59 20 52	+7.I	28 30	43.9 44.3 50.8 51.5	25 36	+6.6	28 30	37.6 37.9	38.4	16 17	+10.
32	21.5 22.8 23.2 24.3	47 49		32	30.6 31.4	2I 0I 2I 07		32	50.0 50.8 57.8 58.0	35		32	29.7	30.0	20 03	
36 36	24.2 25.I	51		34 36.4	34·3 35·5 26.0 27.1	20 54		34 36 38	50.0 51.6	47 36		34 36	23.0	25.6 24.3	19 56 54	
38 40	23.5 24.2 25.4 26.1	49 52		38 40	26.0 27.1 27.0 28.5 22.2 23.8	20 54 56 48 50		38 40	45.0 46.0 38.0 38.6 38.1 38.6	28 16		38 40	23.6	24.6 25.5	54 55	
40 42	26.5 27.8	55		42	23.3 24.6	50	1 7 7	40 42	38.1 38.6	16		42	22.0	24.0	52	
44 46 48	26.1 27.0 25.9 27.1	54 54	+5.5	44 46 48	19.0 20.0	43	+7.1	44 46 48	38.2 39.8 42.2 43.2 39.3 39.8	17 23 18	+6.5	44 46	20.0	22.0	49 48	+10.
48 50	25.6 26.4 23.3 24.6	53 50		48 50	20.5 20.9 16.6 17.6	45 39		50	39.3 39.8 36.6 37.0	18 14	_	48	<b>20.</b> 6	21.0 24.0	49 52	
52	21.3 22.2	46		52	20.6 21.8	45		52	38.5 39.3	17		52	22.3	24.0	52	
50 52 54 56 58	20.6 21.5 20.0 20.0	45 44		54 56 58	24.7 25.3 20.6 20.7	51 44		52 54 56	47.0 47.6 57.1 57.9	30 46		32 34 38 44 46 45 50 54 58	27. I	24.9 28.5	19 54 20 00	
58	17.1b	39	ļ	58	20.8 22.6	46	ii.	58	53.9 55.1	42		58	31.8	32.6	07	

Observers—A. F. and W. J. P., who alternated from 6h 04m to Observer—W. J. P. 6h 14m.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation.	Temp.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d	d	. ,		h m	d	d	0 /		<u> </u>	d	d	. ,	•	h m	d	d	0 ,	
2 00	32.9	34.6	20 09	+10.4	14 00	38.8	39.2	20 17	+13.6	h m 16 00	31.0	32.0	20 06	+9.6	18 00	36.3	41.9	20 32	+7.1
02 04	33.0	34.0 34.0	09		02 04	38.3 38.2	39.0 39.1	17 17		02	29.0 28.7	30.3 29.8	02 02		02 04	36.0 35.5		31	
<b>o</b> 6	35.5	36.I	12		06	39.0		18		04 06	20.7	30.0	02		06	36.2		31	
08	37.7	38.8	16		08		.5a	26		08	30.8	31.8	05		08	35.7	40.0	30	
IO I2	38.1	39.1 38.7	17 16		I0 I2	44.5 45.0	45.8 46.0	27 28		I0 I2	30. I 26. 7	31.0 27.5	20 04 19 59		10 12	35.0 33.3		29 26	
14	40.1	41.0	20	+10.2	14	40.0	41.0	20	+13.6	14	22.0	23.I	51		14	34.9		27	
16 18	40.2	41.3	20		16 18	34.9	36.1	I2 I2		16	21.5	22.2	50	+9.1	16 18	29.2		19 16	+7.0
20	40.0	41.3 43.0	20 23		20	35·1 37.8	35.6 38.5	16		20	20.8 20.1	21.2	49 48		20	27.2 26.8		15	
22	43.1	43.9	24		22	41	.5a	21		22	18.0	18.5	45		22.9	23.6	25.6	10	
24 26	43.0	43·4 43·3	24		24 26	42.2	43.0	23 20		24 26	17.2	18.0 18.0	44		24 26	22.2 21.2	•	08 06	-
28	43.5	44.0	23 25		28	39.1	40.3	18		28		15.5	44 40		28	19.6		03	
30	43.5	43.8	24	+10.1	30	39.7	40.4	19	+13.2	30	12	.2b	35	+8.9	30	18.6		02	+7.0
32	43.6	44.3 44.8	25 26		32 34	39·3 37·7	40.3 38.3	19		32 34*	26.0	.1 <i>b</i> 41.0	27 28	İ	32 34	19.0		20 00	
34 36	44.9	45.I	27		36	38.5	39.4	17		36	33.0	37.0	22		36	16.6	18.2	19 58	
38	45.3	45.9	28		38	34.8	35.1	11		38	27.5	33.0	15		38	18.3		20 02	
40 42	42.8 49.0	43.I 49.6	23 34		40 42	32.I 27.I	32.9 28.0	20 07 19 59	}	40 42	27.6 19.3	31.9 22.2	14 19 00		40 42	21.9	23.I 25.0	06	
44	51.3	51.5	37	+10.2	44	27.2	28.4	20 00		44	18.2	22.I	18 59		14	25.3	26.8	12	
46	50.0	50.6	35		44 46 48	27.6	29.1	00	+12.6	46	15.0	19.5	54 48	+8.7	44 46 48	25.8 26.6	27.5	13	+6.9
48 50	46.4	46.4 46.0	29 28	!	46 50	27.5 27.8	29.0 29.5	00		48 50	11.8	14.8 15.0	40 49		50	20.0	28.0 30.9	14 18	
52	43.7	44.I	25		52	27.3	28.9	00		52	14.6	18.1	18 53		52	27.5	29.3	16	
54	43.2	44.0	24		54 56	30.2	31.0 32.0	04 06	l i	54 56	22.I 27.3	25.5 29.7	19 05 12		54 56	27.5 28.6	29. I 30.0	15 1 <b>7</b>	
56 58	43.5 44.0	44.5 44.8	25 26	1	58	31.0	33.3	06		58	34.3	37.0	23		58	28.3	30.2		
00	44.6	45.I	26	+11.0	15 00	30.8	32.1	05		17.00	40.0	43.I	33	+8.4	19 00	29.1	31.3	17 18	+6.5
02		. Ia	28 28	İ	02 04	30.7	32.I 32.I	05 06	+11.7	02	47·3 53·5	50.0 55.9	44 53		02 04	29.8 28.6	32.0 30.2	19 17	
04 06	45·5 44·3	45·5 44.8	26		06	30.7	31.8	05 06		06	56.3	58.9	53 58		06	29.0	31.0	18	
08	44.I	44.6	26		08	31.1	31.9	06 08		08	57.0	58.5	19 58		08	28.8	30.0	17	
I0 I2	45.2 46.2	46.0 46.7	28 29		10 12	32.3 33.6	33·4 34·7	10		IO I2	58.9 63.5	60.0 65.0	20 OI 08		10 12	31.0 28.8	33.0 30.0	2I 17	
14	47.0	47.6	30	+11.0	14	35.1	36.2	12	+11.3	14	64.2	66. <b>o</b>	10		14	25.3	26.6	II	+6.5
16	48.0	48.2	31	i	16 18	33.9	34.9	10	1	16 18	64.2	66.5	10	+8.3	16 18	22.5	23.7	07	
18 20	46.7 46.0	47.0 46.5	30		20	32.5 34.1	34·3 35·7	09		20	67.5 67.1	68.3	I4 I4	₩.3	20	20.9 IQ.2	22.I 20.3	20 02	
22	45.5	45.9	29 28		22	35.0	36.6	12		22	67.1	68.7	14		22	17.0	18.4	19 59	
24	44.8 46.0	45.I	26		24	32.1	34.8	08		24	63.0	64.8 61.9	08		24	15.0	16.1	55 48	
26 28	46.0 46.1	40.I	28 29		26 28	33·3 34·3	34·5 35·3	09 II		26 28	56	.5b	20 03 19 56		26 28	12.0	11.9	5I	
30	45.7	46.2	28		30	34.9	35·3 36.2	12	+10.9	30	55.0	.5 <i>b</i> 55·5	54	+8.1	30	10.3	11.6	19 48	+6.5
32	44.6	45.I	26 26	+12.8	32	33.1	34.0 33.9	09 08		32 34		57.0 59.5	19 57 20 00		32	18.4	19.3 16.1	20 00 19 55	
34 36 38	44.2 44.0	44.4	25		34 36 38	33.2	34.5	09		36	59.3	60.1	01		34 36	10.6	11.6	19 48	
38	43.9	44.I	25		38	33.7	34.9	10		38	62.1	63.0	06		38	18.2	19.0	20 00	
40	42.5		23	+13.4	40 42	33·4 31.2	35·4 33·0	10 <b>0</b> 6		40 42	65.2	65.5 66.3	09 II		40 42	21.1	21.8	04 08	
42	43.2 42.8	43.3	24 24	723.4	44	29.9	31.3	04		44	65.6	66.7	II		44	24.2	25.0	10	+6.5
44 46 48	40.6	41.3	20		44 46 48	32.5	33.9	08	+10.0	46		66.1	10	十7.5	44 46	24.5	25.3	10	
48	40.7		21		48 50	32.0 32.9	33.0 34.0	07 08		48 50		65.5 68.0	09 13		48 50	25.0 25.8	25.6 26.4	II I2	
50 52 54 56 58	41.4 41.5		22 22		52	33.0	34.1	09		52	70.7	72.0	19		52	25.6	26.2	12	
54	41.8	42.2	22		54 56 58	32.6	34.2	08		54	72.0	73.0	21		52 54 56	25.6	25.6	11	
56		41.1	20 18		56	32.2		08 06		56 58*	75.0	76.1 41. <b>0</b>	26 31		56 58	25.3	26.0 24.8	11 09	

Observers—W. J. P. and A. F., who alternated from 12h 48m to 12h 58h.

Observers—A. F. and W. J. P., who alternated from 18h com to 18h 12m.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Weds	nesday, July	12, 1905	<b>i</b>			Magn	et scale	erect	Frida	ıy, July	y 14, I	905			Ma	gnet s	cale inv	erted
Chr'r time	Scale readings Left Right	nation	Temp.	Chr'r time	Scr read	ings	East decli- nation	Temp. C.	Chr'r time	Scr read Left	ings	East decli- nation	Temp. C.	Chr'r time	Scaread	ings	East decli- nation	Temp C.
h m	d d	. ,	I.	h m	d	d		-	h m	d	d	0 ,	0	h m	d	d	0 /	0
02	22.5 23.0 21.7 22.			22 00 02	58.9 65.4	60.9 67.5	20 06 16	+4.4	20 00 02	39.5 38.0	38.8 36.7	19 56 19 59	+4.0	22 00	34·5 34·2	34·3 33·9	20 04 04	+4.0
04 06	21.9 22.	06		04 06	63.0 68.3	65.8	13 21		04 06	34.5 34.0	33.0 32.I	20 05 06		04 06	33·3 32·7	33.0 32.3	06 06	
o8	20.5 20. 18.6 18.	03	1	· 08	68.3	71.1	21 32		08	27.5 29.0	26.4 28.0	15 13		08	33.0 33.3	32.6 33.0	06 06	
I0 I2	15.8 16.	19 56		12	73.3	76.I	29	.1.4.0	12	29.2	27.6	13		12	34.0	32.3	06 06	
14 16	7.3 7.	7 50 3 43		14 16	73.8	76.8 76.6	30	+4.3	14 16	30.1 27.9	29.0 26.1	11	+4.0	14	33·3 32·3	32.9 32.3	÷ 07	+4.0
18 20*	7.3 7. 43.0 48.	7 43		18	68.0 61.5	72.0 65.3	2I 20 II		18	25.3 24.5	23.8 23.0	19 20		18 20	32.0	31.5 30.6	··· 08	
22	42.5 47.	42		22 24	53·3 50·4	55·7 52·4	19 57 52		22 24	28.4	26.6 20.5	14 24		22 24	30.0	29.2 29.9	11	
24 26	41.3 45.	39		26 28	50.2	52.8	52		26 28	22.I	21.0	24		26 28	31.1	30.2 31.8	IO 07	
28 30	44.6 48.	47	+5.8	30	51.3 56.8	53.1 59.0	19 54 20 02	+4.1	30	22.3 21.6	21.4 20.6	23 24	+4.0	30	32.2	31.2	08	+4.0
32 34	46.2 49. 48.1 51.			32 34	57.0 65.6	59.1 67.0	02 16		32 34	19.5 19.1	19.0 18.2	27 28		32 34	32·3 34·5	31.7 34.0	07 20 04	
34 36 38	49.9 53. 48.9 51.	I 52		36 38	59·5 55·5	61.5 56.0	20 06 19 59		34 36 38	18.3	17.5 17.0	30 31		34 36 38	37.5	37.I 41.8	19 59 52	
40	47.3 50.	2 48		40 42	58.3 66.8	61.0	20 05 16		40	17.3	16.2 17.8	3I 29		40 42	40.0 36.0	39.2 35.8	19 55 20 01	
42 44	47.3 49. 47.2 49.	5 47		44	73.8	74.6	28 20 06	+4.0	42 44 46	18.8	18.1	20		44 46	37.0	36.3	00	
46 48	46.6 49. 46.1 48.	0 47 3 46	+5.5	46 48	59.0 45.6	60.6 46.6	19 44		48	18.6	18.3	28 28	+4.0	48	36.2 34.0	35.6 33.3	01 05	+4.0
50 52	47.1 49. 46.0 48.			50 52	49.0	50.3 45.5	49 42		50 52	20.0	18.8	27 23		50 52	32.2 33.0	31.0 32.1	08 07	
54 56	45.7 47. 46.0 47.	8 45		54 56	39.7 36.1	42.3	36 29		54 56	22.2	21.3 21.3	23		54 56	32.9 31.2	31.9 30.4	07 09	
58	45.2 46.	8 44		1 58	36.6	36.6	29	+4.0	58	20.0	19.6	24 26	1	58	33.0	32.2	<b>o</b> 6	+3.8
1 00	4I.2 43. 39.I 4I.	D 34	,	23 00 02	44.0	45.0 43.2	39 38	T4.0	2I 00 02	22.8	22.1 23.4	22 21	+4.0	23 00	34.9 34.8	33.9 33.8	04 04	T3.0
<b>0</b> 4 <b>0</b> 6	38.5 40. 41.3 43.			04 06	41.9 45.0		43		<b>0</b> 4 <b>0</b> 6	22.1		23 24		04 06	34.6 36.9	33.2 35.2	04	
80	40.8 42. 42.1 43.	6 37	'	08	44·3 50	44·3	41 19 50		08	23.0		22 24		08	36.1 36.2	34·5 35·0	02 02	
12	43.5 45. 46.6 47.	0 41	:	I2 I4	59.0 57.5	59.5	20 04 20 02	+3.9	12 14	23.8 24.5	23.3	2I 19	+4.0	I2 I4	36.0 35.4	34.6 34.0	02 03	+3.8
14 16	47.5 48.	3 47	, l	16	52.0	52.6	19 54 20 08	13.9	16	26.2	24.2 26.1	16	14.0	16	35.3	33.0	03	13.0
18 20	49.2 50.	0 48	3	18	60.5	62.3 61.1	07		18	26.7 28.3	28.1	16 13		18 20	34.2 33.5	32.8 32.0	05 06	
22 24	46.0 47.	0 41		22 24	55.0 55.4	58.5 56.6 58.4	03		22 24	29.9 31.0	29.5 30.8	09		22 24	32.9 32.2	31.2 30.6	07 08	
26 28	44.6 46. 43.4 44.	0 43	3	26 28	57.0 58.4	58.4 59.0	02 04		26 28	31.4	31.1	09 06		26 28	32.3 32.0	31.0 30.6	08	Ì
30	44.5 45.	5 42	+4.8	30 32	58.4 57.8 55.8 55.6	59.0 58.6 56.8	03	+3.8	30 32	33.0	32.8	06 08	+4.0	30	30.3	29.3	11	+3.8
32 34	44.3 45.	0 42	2	34	55.6	56.8	00		34	31.1	31.1	09		32 34 36	30.3	31.0	08	
36 38	43.8 44. 46.1 47.	5 45	5	34 36 38	56.0 60.8	61.1	00		36 38	31.9	31.7	08 08		38	33.2 34.5	32.6 33.6	06 04	
40 42	47.8 48. 48.0 48.			40 42	61.0 59.0	<b>62.0</b> 59.6	08 05		40 42	34.1 35.6	35.2	04 02		40 42	34.0		06	
44	49.4 50.	3 50	+4.6	44 46	61.3	59.6 62.1 65.3	05 08 13	+3.7	44 46	36.5 35.0	36.0	0I 03	+4.0	44 46 48	32.0 35.0	30.4	09	+3.6
48	50.9 52. 52.8 54.	3 50 3 50 3 50		48	64.5 71.8	72.0	24	, 3.7	48	32.4	32 · I	97		48	33.0	31.6	07	
50 52	53.1 54. 54.7 55	6   19 58	3	50 52	70.9 68.2	68.5	24 19		50 52	38.2	38.0	20 03 19 58		50 52	33.1	31.5	06	'
44 46 48 50 52 54 56 58	57.6 58	0 02		54 56 58	70.4 68.9	70.6 69.9	20		54 56	38.2 34.0		19 58 20 04		54 56 58	31.8	30.3 27.9	13	
58	58.3 59.	3 04	1	58 24 00	65.7 <b>63.3</b>	66.3	15	+3.7	58		33.7	04		58 24 00	27.0 25.3	26. <b>0</b>	13 16 18	+3.

Correction to local mean time is os. Torsion head at beginning and ending read 252°. Observer—W. J. P. Correction to local mean time is — 19s. 90° torsion = 18.'05. Torsion head at 20h 00m read 252° and at 24h 15m read 242°. Observer—W. J. P.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Sund	ay, July 16, 1	1905	,		Magne	et scale	erect	Sund	ay, July 16,	1905			Mag	gnet so	cale inv	erted
hr'r ime	Scale readings Left Right	East decli- nation	remp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scal readin	ngs	East decli- nation	Tem C.
m	đ đ	. ,	•	h m	đ đ	• ,	•	ħ m	đ đ	0 ,	•	h m	đ	đ	0 ,	
00 03*	Lost 49.0 50.5	20 04	+4.1	2 00	49.3 51.8 48.3 50.6	20 43	+2.5	4 00	48.5 47.8 46.8 46.6	21 31	+3.1	6 00		15.0	2I 20 20 5I	+7.6
04	49.2 50.8	04	74.1	04	48.3 50.6	4I 4I		04	44.8 43.9	33 37		02 04	36.5	34.7	20 51	
об 08	50.2 51.6	05		06	46.2 48.8	38		06	41.2 41.0	42		об	30.0	26.0	21 02	
10	51.6 53.2 53.2 54.6	80		08	45.8 47.9 46.0 48.0	37 37		08.2	37.8 36.9 35.6 34.9	48. 51		08		33.7	20 52 51	
12	54.7 55.9	12	· .	12	45.8 47.8	37		12	36.8 36.5	49		12	38.6	366	47	
14 16	55.7 56.8 54.5 55.2	14	+4.0	14 16	44.9 48.2 50.8 53.0	36	+2.5	14 16	38.4 37.9 39.2 38.6	47 46	+4.0	14 16	40.2	38.0	45	+8. т
18	52.8 53.7	09		18	50.8 53.0 50.1 52.0	45 43		18	40.7 40.0	43		18		39.5	43 42	70.1
20 22	53.8 54.5 53.8 54.2	10		20	48.8 51.2	42		20	41.0 40.3	4.3		20	43.0	41.1	40	
	53.8 54.2 50.6 51.2	05		22 24	50.1 52.1 49.6 51.6	43 42		22 24	40.8 39.9 44.1 43.2	43 38		22 24		40.6	41 39	
24 26	47.8 48.1	00		26	48.8 51.0	41		26	46.0 45.7	34		26	43.8	42.0	39 38	
28 30	48.0 48.6 50.0 50.6	01 04	+4.0	28 30	49.8 51.4 50.1 51.6	42	+2.5	28 30	46.8 46.6 45.6 45.0	33	+4.8	28 30		42.7	38 38	+8.5
32	51.8 52.0	07	74.0	32	50.0 51.5	43 42	T2.3	32	41.8 41.3	35 41	74.0	32	1	44.0	36	70.5
34	54.9 56.2 56.8 57.6	12		34	51.5 53.0	45		34 36	41.6 40.9	43		34	44.3	42.0	.38	
34 36 38	56.8 57.6 58.4 58.8	15 17		36 38	52.8 54.0 53.5 54.6	47 48		38	42.5 41.3 46.8 46.1	41 34		36 38		44.0	36 35	
40	59.3 59.5	18		40	54.8 55.8	50	1	40	42.8 42.0	40		40	45.8	44.2	35 36	
42 44	57.5 58.2 56.3 56.7	16 14	+4.0	42	53.8 54.6 51.6 52.6	48 45	+2.3	42	38.7 37.4 35.7 35.2	47 51		42 44		44.8	35	
44 46 48	56.0 56.4	13	T4.0	44 46	50.9 51.9	45	72.3	44 46	37.1 36.8	48	+5.0	46		44.5 44.7	35 35	+8.6
48	56.0 56.2	13		48	51.0 52.0	44		48	37.3 37.0	48		48	45.9	45.0	35 36	
50 52 54 56	58.3 58.6 59.0 59.4	17		50 52	51.8 52.6 53.6 54.8	45 48		50 52	39.0 38.2 40.5 40.2	45 43		50 52		44.2	36 36	
54	60.0 60.2	19		54 56	55.7 56.3	51		54 56	40.6 40.T	43		54		43.0	38	
56 58	60.8 60.8 61.5 61.7	20 22		56 58	55.3 56.0 56.0 56.4	50 51		50 58	42.1a 45.5a	40· 35		56 58	1 '	41.2	40	
00	61.9 62.0	22	+3.5	3 00	56.8 57.4	52	+2.0	5 00	47.9 47.5	33	+5.5	7 00		41.0	40 40	+8.o
02	61.0 61.0	21		02	57.1 57.5	53		02	46.5 46.0	34		02	42.9	41.5	40	j '
04 06	60.1 60.3 60.3 60.6	19 20		04 06	57.0 57.1 57.0 57.3	52 52		04 06	44.2 43.7 45.0 44.4	37 35		04 05		41.7	40 40	
8	60.9 61.1	21		08	56.5 56.5	51		08	43.8 43.T	38		08	1 .	41.4	40	
10	61.0 61.3	21		10	55.6 56.8 56.9	50	İ	10 12	45.8 45.0 48.0 47.5	35· 31		10 12		43.8	37	
[2 [4	61.5 61.7 61.0 61.0	2I 20	+3.1	12 14	58.2 58.6	52 20 54	+2.0	T4	50.7 50.0	27	+6. т	14		44.8 44.6	35 35	
r6	64.0 64.0	25		16	62.9a	21 01		16 18	52.6a	23		16	44.8	44.2	35 36	+7.7
20 81	63.1 63.5 63.8 64.0	24 25		18 20	67.4 67.4 63.8 64.4	08 03		20	54.0 53.4 56.2 55.6	22 18		18 20		44.5	35 34	
22	64.0 64.3	25		22	62.5 62.0	OI		22	56.1 55.5	18		22	46.7	46.0	33	
24	63.0 63.2	24		24 26	62.4 62.6 65.6 66.0	от <b>о</b> б		24 25	57.2 56.9 60.20	11		24 26	47.0	46.8	32	
26 28	63.0 63.2 64.3 64.6	24 26		28 28	69.2 69.6	11		28	бт.о бо.5	10		28	45.8 46.1	45.8 45.8	34 33	+7.8
0	64.6 64.8		+2.9	30	72.1 72.8	16	+2.0	30	61.5a	00	. <del>†</del> 6.5	30	45.6	45.3	34	
32	67.1 67.3 63.5 63.9	30 24		32	72.0 72.6 71.0 71.9	16 14		32 34	63.9 63.1 64.3 62.6	21 05		32 34	46.8	46.3	32	
34 36	63.5 63.9 69.4 69.6	34		34 36	69.8 70.2	12		36	68.5 67.1	20 59		36 38	46.6	46.0	34 33	
8	67.8 68.4	31		38	71.0 71.2	14		38	68.9 68.0 69.0 68.0	58		38	46.8	46.3	32	
10	67.3 67.6 68.2 68.4	30 32		40 42	72.8 73.1 71.3 71.5	1 <b>7</b> 14		40 42	68.7 67.6	58 59		40 42		47.0 47.9	31 30	
12 14	69.9 70.5	34	+2.5	44	70.0 70.2	12	+2.0	44	69.9 69.2	56		44 46	48.4	48.0	30	+7.9
14 16 18	71.3 71.6	<i>3</i> 6		46	70.0 70.0	12		46 4 <b>8</b>	74.1 74.0 68.8b	50 5 <b>8</b>	+7.0	46 48		48.8	28	
8	72.I 72.5 73.0 73.I	38 39	[]	4 <b>8</b> 50	69.0 69.2 70.3 71.0	11 13		50	70.5a	50		50		49.0 48.7	28 28	
2	73.3 73.6	39		52	75.0 75.1	20		52	78.0 <i>a</i>	4:3		52 54	50.2	50.0	26	
4	75.0 75.0	42		54	77.3 77.3	23		54 <b>*</b> 56	39.0 36.2 37.2 34.9	48 50		54		49.9	27	
6 8*	76.9 76.9 51.3 51.5	45 46		54 56* 58	53.9 54.5 56.8 57.8	25 30		58	42.7 38.2	43		56 58	52.3	53.4	21 24	
_	5-10 5-10					3.	l l					8 00		47.8	30	+8.0

Observer-W. J. P.

Correction to local mean time is -20s. 90° torsion = 18.70. Torsion head at oh oom read 242° and at 8h oom read 269°. Observers-W. J. P. and A. F., who alternated from 4h oom to 4h 10m.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Mond	lay, July 17	, 1905			Magnet	scale inv	erted	Tues	day, July 18,	1905				Magn	et scale	erect
Chr'r time	Scale readings Left Righ	nation	Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Tem C.
h m	d d		u	h m	d d	0 /		h m	d d	0 ,	•	h m	d	đ	0 /	•
8 00*	51.3 50. 52.4 51.8	3 51	+6.1	10 00	66.3 65.9 65.5 65.5	20 3I 3I	+ 8.8	12 00 02	45.5 46.3 46.0 46.5	20 I2 I2	+8.0	14 00 02	35-4	39·3 36.0	20 01 19 56	+9.0
04 06	52.0 51.3 53.4 53.	1 50		04 06	65.1 65.0 64.7 64.5	33 34		04	45.0 45.3 44.3 44.9	10		04	32.9	33.6 33.5	52 52	
10 80	54.5 54.5 54.0 53.9	49		08	64.7 64.7 64.8 64.2	34 34		08	44.6 44.7	10		08 10	33.6 33.1	34.0 35.0	53 53	
14	54.2 54.2 55.0 55.0		+6.1	12 14	64.5 64.1 62.8 62.2	34 37	+10.1	12 14	44.2 44.6 44.3 44.6	10	+8.2	12 14	32.9	35.1 35.0	53 53	
16.5 18	54.3 54.0 54.6 54.1	48		16 18	62.2 62.2 62.1 61.9	37 38 38 38 36		16 18	44.5 44.7	10		18 18	33.3	35.4 35.0	54 54	+9.0
20 22	54.8 54.2 54.5 54.9	48		20 22	61.9 61.5 63.5a			20 22	43.3 43.6 42.3 42.5	08		20 22.2	20.0	33.0 32.1	51 49	
24 26	55.1 54.6 54.6 54.3	48		24 26	65.0 <i>a</i> 68.3 68.0	33 28		24 26	41.8 42.1 41.5 41.9	06 05		24 26	28.5	32.4	49 47	
28 30	56.2 55.5 56.1 55.2	2 46	+6.5	28 30	67.5 67.1 66.6 66.3	30 31	+11.0	28 30	40.0 40.5 39.3 39.8	03	+8.7	28 30	25.5	27.6 26.3	42 41	+9.0
32 34	56.7 56.3 56.0 55.8	3 46		32 34 36	67.2 67.1 66.6 66.2	30 31		32 34	38.8 39.3 37.5 38.4	20 0I 19 59		32 34 36	22.0	25.0 23.8	38 36	
34 36 38	54.4 54.2 55.5 54.9	27		38	66.8 66.8 67.1 66.7	31 31		34 36 38	37.5 38.1 39.5 40.5	19 59 20 03		38	18.2	19.8	32 30	
40 42	56.2 55.8 57.1 56.2	7 44		40 42	68.3 68.0 68.0 67.8	29 29		40 42	39.6 40.4 37.6 38.6	03		40 42	14.5	17.3 15.9	26 24	. 0
44 46	56.7 56.1 57.5 57.3 58.8 58.6		+6.8	44 46	66.8 66.5 67.3 66.8	31 30	+11.0	44 46 48	38.0 39.0 38.1 39.2	20 00	+8.7	44 46	12.6	14.9	21	+8.9
48 50	59.3 59.0	41		48 50	67.8 67.3 64.9 64.6	30 34		50	36.3 37.5 35.0 36.0	19 58 56		48 50	13.5	14.0	2I 22	
52 54 56	59.2 59.2 59.1 59.0	41		52 54 56	64.6 64.4 67.4 67.1	34 30		52 54 56	37.5 38.3 38.8 40.0	19 59 20 02		52 54	13.3	13.5 13.6	20 21	
58	59.3 58.9 60.0 59.4	40	+7.0	58	66.6 66.2 65.6 65.1	32 33		58	37.0 38.0 37.8 39.1	19 59 20 00		56 58	13.0	14.2	22 20	106
00	59.3 58.9 60.0 59.2	2 41		II 00 02	64.5 64.2 68.1 67.9	35 29	+11.0	02	38.5 39.2 37.1 38.3	20 01 19 59	+8.9	15 00 02	12.0	14.0	19	+8.6
04 06	60.6 50.6 59.2 58.4	42		04 06	68.3 68.3 68.2 68.1	29 29 28		04 06	37.2 38.0 37.8 38.5	19 59		04 06	16.6	16.2	25 26	
10	60.6 60.6	2 40		10	69.3 68.9	24		10	37.0 37.8 35.5 36.3	19 59 56		10	18.5	17.8	27 29 28	
12 14	60.6 59.8	40	+7.0	12 14 16	72.9 72.5 71.6 69.6 71.8 71.4	22 25	+11.0	12 14 16	34.4 35.2 35.3 36.3	55 56 58	+9.0	I2 I4	17.8	18.2	28	+8.6
16 18 20	64.8 64.3 63.0 62.6 64.1 63.3	5 36		18	71.8 71.4 76.2 75.8 73.8 72.6	24 17 21	711.0	18	36.4 37.0 34.3 35.0	54		18	12.9	16.8	26 20	
22 24	64.1 63.5 62.3 62.0 61.6 61.	37		22 24	69.8 69.0 68.6 67.2	27 30		22 24	33.9 34.5 34.3 35.0 34.3 35.1	54 54		20 22 24	15.8	13.9 16.5 18.5	21 25 28	
26 28	59.6 59. 60.2 59.8	1 41	1	26 28	71.6 70.3	25		26 28	32.1 33.0	54 51		26 28	18.4	18.8	29 28	
30 32	62.3 61.5 62.3 62.0	7 37	+6.8	30 32	72.1 71.2 66.8 65.4	23 24 33	+11.1	30 32	35.2 35.8	54 56	+9.0	30	15.8	18.5	25	+8.6
34 36 38	63.2 62.8 66.3 65.6	3 36		34 36	71.8 71.2 77.0 75.8	24 16		34 36	34.5 34.9 31.5 32.1 32.1 32.2	54 50 50		32 34	25.7	22.0 26.3	34 31	
38 40	67.0 67.0 68.1 67.0	29		38 40	77.0 75.6 78.0 77.3	17		38 40	32.8 33.8 34.0 34.2	52		36 38	26.3	27.8 26.8	42 42 36	
42	69.0 68.0	5 27	+7. I	42* 44	53.3 51.5 47.0 46.2	10	+11.0	42	34.8 35.9 34.8 35.8	54 55 55	+9.1	40 42	29.0	23.0 29.1 30.6	46 48	+8.8
44 46 48	70.7 70.2 69.9 69.6	1 24	' ' ' '	46 48	46.6 45.3 44.0 42.5	20 25	1110	44 46 48	34.2 35.3 36.4 37.1	54 19 58	7-9.1	44 46 48	30.5	31.8	49	70.0
50	70.6 70.4 70.8 70.1	1 24		50 52	46.0 45.0 43.5 42.3	21		50 52	37.8 38.6	20 00 0I		50	27.I	28.4 27.5	44 43	
50 52 54 56 58	69.3 69.3 68.0 67.3	3 26		54 56	42.0 41.0 39.0 38.2	25 28 32		54 56 58	38.3 39.7 39.3 46.4 39.8 40.2	07 03		52 54 56	28.3	27.0 29.7	42 46	
58	68.1 67.9	27		58 12 00	38.6 38.2 41.9 40.2	32	+10.6		39.0 40.0	03		58 16 00	28.9	29.9 30.6 34.5	47 47 53	+8.8

Correction to local mean time is -22.5s. 90° torsion = 18.'02. Torsion head at 8h oom read 272° and at 12h 59m read 250°. Observer—W. J. P.

Correction to local mean time is about — 15s. 90° torsion = 17.'40. Torsion head at 12h 00m read 246° and at 16h 25m read 255°. Observer—W. J. P.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Chr'r time	Scale readings Left Right	East decli- nation	T'emp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp C.
ı m	d d	• ,	•	h m	d d	0 /	•	h m	d d	• ,	•	h m	d d	• ,	•
00*	62.3 61.9 60.2 58.5	19 46 50	+5.0	2 00	45.5 44.5 44.9 44.2	20 57 20 58	+3.9	4 00 02	48.0 48.0 50.2	20 52 49	+2.4	6 00	51.5 50.8 51.2 51.0	20 48 48	
04	59.3 58.4	51		04	42.7 42.0	2I <b>0</b> 2		04	50.2 50.0	49		04	52.0 51.5	47	
o6 o8	54.8 52.0 55.4 52.3	19 59		06 08	41.8 41.1	03		o6 o8	52.8 52.5 52.8 52.3	45 46		06	53.1 52.0 52.7 51.4	46 46	
10	52.8 48.2	20 04		10	41.3 41.3	03		10	53.0 52.5	45		10	52.1 51.2	47 48	+3.0
12 14	47.8 43.6 41.8 37.2	11 21		12 14	40.4 <i>b</i> 38.2 <i>b</i>	05 08	+4.1	12 14	53.5 53.0 52.4 52.0	44		I2 I4	51.6 50.3 51.2 50.2	48	
16	40.6 36.7	22	+5.0	16	36.I 35.5	12		16	53.7 53.0	44	+2.3	16 18	52.6 51.0	47	+3.0
18 20	43.2 39.9 44.7 41.5	18		18 20	34.0 33.8 34.1 34.1	15		18 20	59.5 59.5 52.2 51.2	34 47	1	20	53.5 53.0 50.0 49.7	44 50	
22	44.9 41.2	16		22	35.3 35.1	13		22	46.2 45.3	56		22 24	49.1 48.5 53.0 52.3	51 45	
<b>2</b> 4 <b>2</b> 6	42.9 39.1 38.3 35.5	19 25		24 26	37.0 36.5 37.7 37.2	09		24 26	44.I 43.3 47.2 46.4	59 54		26	53.0 52.5	45	
28	37.8 35.1	26	1 = 6	28	38.2 38.0	08 05	+4.0	28 30	50.3 49.8	50	+2.2	28 30	52.0 51.2 53.2 52.6	47 45	+3.1
30 32	40.0 37.1	23 20	+5.6	30 32	40.4 40.0	21 02	1 4.0	32	50.7 49.9 51.5 50.7	49 48	72.2	32	52.6 51.9	46	(312
34.5	40.5 37.8	22 22		34 36	44.4 43.9 44.0 43.5	20 59		34 36	51.6 50.9 52.7 51.8	48 46	Ì	34 36	53.I 52.3 53.6 52.5	45	
36 38	40.5 37.8	21		38	42.1 42.1	21 02		38	53.0 52.6	45		38	53.0 52.0	45 46	
40	40.9 39.3 37.7 30.8	20 20 29		40 42	42.5 42.1 43.5 43.2	02		40	50.3 49.7 49.0 48.4	50 52		40 42	52.0 51.3	47 49	į
42 44*	44.4 42.6	21 09		44	40.5 40.I	05		44 46	47.3 46.7	54		44 46	54.3 53.0	44	+3.0
46 48	38.0 36.7	18 23	+4.2	46 48	39.6 39.2 40.0 39.8	06	+3.5	46 48	49.1 48.0	52 47	+2.2	46 48	55.9 54.8 56.1 55.5	41 40	
50	36.9 31.5 27.1 24.0	21 37		50	40.8 40.5	04		50	54.0 53.5	44 38		50	59.1 58.7	36	
52	11.0 10.5	22 00 2I 44		52 54	42.0 41.6	02 01		52 54	57.5 56.6 57.2 57.2	38	•	52 54	59.1 58.3 56.3 55.6	36 40	
54 56*	54.7 45.0	22 05		56	41.6 41.0	03		54 56	55.5b	41		54 56	53-3 52-5	45	
58 00*	78.0 <i>a</i> 41.5 34.0	2I 2I 2I 09	+4.2	58 3 00	39.9 39.1 38.1 38.1	06	+3.0	58	53.7 53.3 54.8 54.5	44	+2.2	58 7 00	48.5 48.2 50.9 49.9	52	+3.0
02	53.0 47.5	20 49	1 '	02	37.5 37.3	09		02	53.8 53.1	44	'	02	59.0 58.3	49 36	
04 06	48.5 42.0 50.8 46.0			04	37.0 36.8 37.1 36.6	10		04 06	50.0 49.2 49.8 49.2	50 50		04	57.0 57.0 57.6a	38 38	
08	50.9 45.7	52		08	34.5 33.9	14		08	50.3 50.0	49 50		08	60.4 60.0	34	
10 12	50.1 45.1 49.1 45.0	20 54		I0 I2	31.4 30.7 30.8 30.1	19 20		10	49.5 <i>b</i> 50.5 50.0	40		12	54.2b 51.6 50.9	43 48	
14	45.2 41.0	21 00		14 16	29.5 28.6	22	+2.8	14 16	51.1 50.8 52.5 51.7	48 46	+2.4	14 16	48.5 <i>b</i>	52 54	+3.C
16 18	42.2 37.5 38.8 35.1	05 IO		18	26.3 25.8 27.6 26.7	27 25		18	52.8 52.1	46		18	50.00	50	
20	36.5 33.0			20 22	30.5 30.1 31.6	18		20 22.	52.3 51.8 3 52.8 52.0			20 22	55.2 54.5	4I 42	
22 24			1	24	31.4 30.6	20		24	55.0 54.8	42		24	56.1 55.5	40	•
26	48.9 45.8	20 54		26 28	32.8 31.8	17		26	53.4 53.0 51.2a	44		26 28	53.2 52.0 49.3 48.7	45	
28 30	45.3 42.0 42.3 39.2	2I 00 04		30	34.5 33.8	14	1-2.6	30	54.7 53.5	43	+2.9	30	52.3 51.6	46	+3.1
32	39.8 37.4	07		32	34.9 34.0 37.0 36.5	14		32	51.5 51.0 54.6 53.8	48		32	50.8 49.8		
34 36 38	40.5 37.5 42.8 40.2	07		34 36	38.0 37.4	09		36	54.5 53.9	43		34 36 38	50.6 49.9	49	
38	44.6 42.1	21 00		38 40	38.2 37.8 38.5 37.8	08 08		38	55.3 54.6 51.9 51.2			38 40	50.5 50.2 52.8 52.2		
40 42	45.7 44.8 45.1 43.5	58		42	42.8a	21 01		42	52.4 51.2	47		42	51.6 51.0	47	
44 46	46.0 43.4	20 58	1.	44 46	46.3 45.8 46.4 45.9	20 56 56	+2.6	44 46	50.0 49.9			44 46	51.5 50.6 53.2 52.2	48	8   5   <del>  +</del> 3.
46 48	44.2 42.5 43.5 42.0	21 01		48	46.0 45.2	56	2007	48	53.1 52.5	45		48	50.8 51.1	48	
50	44.1 42.7	21 00	1	50 52	45.5 44.6 46.7 45.8	57 55		50 52	52.7 52.0			50	54.2 52.6 52.5 50.5	44	t i
52 54	44.9 43.1 44.6 43.1			54	48.8 47.7	52		54 56	53.0 52.5	45		52 54 56	53.2 52.2	45	5
54 56 58	43.5 42.3 43.8 42.6	21 01		54 56 58	48.0 47.1 47.1 46.5	53 54		56 58	53.6 52.8 53.0 52.6			56 58	50.2 49.6 47.2 45.6	50	5 5 i

Observer-A. F.

Observers—A. F. and W. J. P., who alternated from 5h 58m to 6h 08m.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

hr'r me	Scale readin	ıgs	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.	Chr'r time	read	ale lings Right	East decli- nation	Tem C.
m	đ	d	0 /	0	h m	đ	d	· ·	۰	h m	d	d	0 ,	•	h m	đ	đ	0 ,	•
00		11.7	21 01	+3.0	10 00	61.6	61.3 60.0	20 32	+5.0	12 00	40.0	38.8	20 06	+5.3	14 00	26.8 25.8	26. <b>6</b>	20 25	+5.
02 04		37.1 40.6	09 04		02 04	64.0	62.8	34 28		02 04	39·4 37.6	38.0 35.8	10 00		02 04	24.7	25.5 24.3	27 29	
06	36.3	34.3	12		06	64.6	63.3	28		of	38.5	37.0	08		06	24.3	24.0	20	
08		31.6	17		08	63.5	62.5 63.8	29 27		08	37.8	36.4	09		08	25.3	25. I 24.8	28 28	
IÒ 12		39.6 34.0	05 14		10 12	63.5	62.8	20		10 12	36.4 35.6	34.2 34.2	12 12		10 12	25.0	23.4	30	
14	37.9 3	37.0	09	+2.7	14	64.3	63.4	28		14	34.0	32.2	15	十5.5	14	24.0	23.7	30 28	<del>+</del> 5.
16	34.0	33.2	15		18	65.0 65.8	63.8 <b>6</b> 4.8	27 25	+5.0	16	34.0	33.2	15		16 18	24.9 26.1	24.9		
18 20	38.1 3 47.1 4	37.6 45.8	21 09 20 55		20	65.1	64.0	27		18 20	34.8	33.2 36.0	14		20	27.1	25.5 26.9	27 25	
22	45.0	42.8	59		22	65.1	64.1	27		22	34.0	33.2	14		22	27	.3a	24	1
24 26		45. I	55		24 26	66.9	65.6 66.0	24 23		24 26	34.8.	33.1	T4		24 26	29.6	29.3 29.8	21	
201 28		49.8 49. <b>0</b>	4 <b>7</b> 49		28	65.1	63.9	27		20 28	34.6 35.4	33.8 34.2	13		28	30.0	30.5	20 19	
30	56.0	52.3	43 38	+2.6	30	65.9	64.1	26	+5.0	30	32.6	31.3	17	+5.5	30	31.0	30.7	19	+5.
32		56.0 55.8	38 38		32	67.8	65.8 66.6	23 22		32	33.5	32.6	16		32	32.9	32.5	16	
34 36		59.6	32		34 36	66.9	64.9	24		34 36	35.0 35.1	33.6 33.8	13		34 36	33.7 33.1	33·4 32·7	15 16	
38	63.2	50.9	31		38	66.0	64.0	26		38	34.0		13		38	32.0	31.6	17	
40		52.2	28		40 42	67.5	66.1 63.0	23 28		40	36.7	35.2	11		40	30. I 28.4	29.7 28.0	20	
12 14		57·9 61.5	35 30	+3.0	44	63.6	62.5	20	+5.0	42	35.4	33.8 36.8	13		42	28.0	27.7	23 24	+6
16	62.2	60.0	32	' ''	46	66.0	65.0	25		46	38.0	36.4	00	+5.3	44 46	27.9	27.5	24	'
8		63.4 63.1	27 27		48 50	66.8	66.0 66.8	24 22		48	35.0	33-5	14		48	27.7 28.7	27.4	24 22	
50 52		бі.і	31		52	67.5		22		50 52	35.7 35.2	34.2 34.0	12		50 52	30.2	20.4	20	
54		50. T	32		54		.oa	21		54	33.2	32.0	16		54 56	32.8		17	
56 58	56.6 56.2	55.1 54.8	40 41		56 58	64.3	63.8 69.1	28		56 58	35.8	34.3	12 23		56 58	32.2 32.1	32.0	17	
00	50.6	49.8	49	+4.0	11 00	64.0	63.6	28	+5.1	T3 00	26.5	25.8	26	+5.4	15 00	30.8	31.9 30.6	19	+5
02	51.5	50.3	48		02	68.5	67.0	22		02	25.4	24.4	28		02	30.2	29.9	20	'
04 06		48.3 42.4	20 50 21 00		04 06	66.8	66.0 66.1	24 24		04 06	23.3	22.8 21.8	31		04 06	30.I 30.2	29.9 30.0	20 20	
08		46.2	20 54		08	66.6	65.5	24		08	21.2	20.3	35		08	31.0	30.7	10	
10	47.5	45.5 45.6	55		10	67.9	66.5	22		TO	22.3	21.0	33		10	31.4	31.0	18	
12 14		45.0 43.3	20 59	+4.5	12 14	69.6	69.0 71.4	I9 I5	+5.4	14	24.8	23.5	20 28		12 14	31.2	30.8 30.6	19 19	+5
16	43.8	42.0	21 01	14.3	16	70.6	70.I	18	1 3 4	τή	25.7	24.6	28	+5.5	16	29.8	29.6	21	'
18	47.6	45.8	20 55		18	60.0	68.4 67.6	20		т8	25.1	24.3	28		18	30. T	29.9	20	
20 22		47.2 51.2	52 46		20 22	69.9		21 20		20 22	25.2 26.0		28 27		20 22	30.2 31.6	30.0 31.3	20 18	
24	54.5	52.8	44		24	71.8	70.0	17		21	28.9	27.8	23		24	32.5		17	
26 28	54.0 58.0	53·5 57.8	44		26 28	71.0 68.2		18		26 28	31.0		18		26	32.5	32.2	16	
30 30	60.0	59.I	37	+4.6	30	67.0	65.6	24	+5.4	30	34.8 34.9	33.5 34.0	13	+5.5	28 30	32.9	32.7 33.1	16 15	+5
32	61.2	60.4	32		32		65.2	24		32	37.9	37.0	l 08	13.3	32	32.8	32.3	16	-
34 36	62.0 64.8	64.0	31 27		34	68.6		23		3.4	38.1	37.5 38.6	08		34	31.8		18	
38	64.6	63.8	27		38	70.6	70.0	18		38	39.3	38.0	06		36 38 -	32.3		17	
40	67.0	66.8	23		40	74.1	73.5	12		40	38.9	38.6	07		40	32.3 32.6	32.0	17	
42 44	63.2 61.0		33	+5.0	42 44	75.0		04	+5.2	42 44	37·5 35·5	36.7 34.8	12		42	32.6	32.2	16	
46	63.6	62. I	29	1 3.0	46*	41.0	39.8	04	, 3.2	46	33.5	33.0	15	+5.5	44 46	33·7 35·5	33·3 35·I	15	
48	60.3	60.2	34		48	41.2	40.0	04		48	33.5 33.6	33.0	15	"	48	37.8	37.I	00	
50 52	59·3 58·0	59.2	35		50 52.5	42.0		02		50 52	32.5	31.9	17		50	39.6	39.0	06	- 1
54 56	63.0	62.6	29		54	42.9	41.5	01	Ì	54	28	3.3b	20 23		52 54		40.0	20 04 19 56	
56	64.2	63.2 60.8	28 32		56 58	42.4 43.0	40.8 41.6	02 01		56 58	26.8 26.5	26.8	25 26	205	54 56		49.1	50	

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Wedr	esday, July	19, 1905			Ma	gnet s	cale inv	erted	Wed	nesday,	July	19, 1905			Ma	gnet s	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Scaread		East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Sc read Left		East decli- nation	Temp C.
h m	d d	. ,	•	h m	d	d	• ,		h m	d	d	. ,	•	h m	d		۰,	•
6,00 02	51.8 51.5 52.3 52.3	19 46	+5.5	18 00	36.6	36.5	20 IO II		20 00	37.3	37.3	20 09	+5.2	22 00	35.2 34.2	34.5	20 I3 I4	+4.0
04	52.6 52.4	45 45		02 04	36.2 35.8	35.9 35.2	12		02 04	37·5 37·5	37·3 37·3	09		02 04	33.2	33·4 33.0	15	
06 08	52.5 52.1 53.4 52.9	45		o6 o8	33.9	33.I	15 16		06 08	37.6	37.4	09 08 <b>08</b>		o6 o8	33.0 33.2	32.5 32.8	, 16 16	
10	53.4 52.9 54.0 53.8	44		10	33.2 33.6	32.5 $33.2$	15		10	38.0 38.0	37.8 37.8	08		10	32.6	32.3	16	
12	53.2 53.0 52.3 52.3	44		12	35.1	34·5 35·2	I3 I2	+5.8	12	37.8	37.6	08	1	I2 I4	33.2 33.3	32.9 33.2	16 15	+4.0
14 16	48.9 48.9	45 50	+5.4	14 16	35.9 35.1	34.8	12	73.0	14 16	37.2 37.0	37.0 36.8	09 09	+5.1	16	30.6	30.0	20	1,4.0
18 20	47.6 47.3	53		18 20	34.6	34.0	I3 I4		18	37.2	36.6	09		18	27.2 24.5	26.5 24.0	25 29	
22	45.9 45.5	54 56		20	34.6 33.6	33.8 33.0	15		20 22	37.6 38.8	37.2 38.0	09 07		20 22	24.0	23.7	30	
24 26	45.1 44.8	57 19 58		24 26	32.2	32.0	17		24 26	38.0	37.5	08		24 26	24.3	24.I	29	
20 28	44.1 43.7	20 00		20 28	31.0	30.3 30.1	19 20		20 28	37·7 37·5	37·3 37·3	80 80		20 28	23.7	23.5 22.8	30	
30	44.5 44.0	19 58	+5.3	30	30.5	30.0	20	+5.6	30	37.5	37.2	09	十5.0	30	22.8	22.7	32	+4.0
32 34	44.4 44.1 42.3b	19 58 20 01		32 34	30.5	30.0 29.5	20 2I		32 34	37·5 38·5	37.2 37.6	09		32 34	22.6	22.6 21.5	32 34	
36	39.6 39.0	06	1	34 36 38	29.4	29.5 28.5	22		34 36	38.3	38.0	07		34 36 38	21.0	20.6	35	
38 40	35.4b 34.2 33.9	12 14		36 40	29.1 28.8	28.0 28.3	22 22		38 40	38.2	38.0 37.7	07 08		38 40	19.8	19.5 19.1	37 37	
42	36.0 35.8	11		42	29.2	28.7	22		42	38.4 37.8		08		42	19.8	18.5	37	l
44 46	34.8 34.5 33.7 33.5	13 15	+5.1	44 46	29.8 30.5	29.1 29.8	2I 20	+5.5	44 46 48	37·3	37.0 36.7	09		44 46 48	16.3	16.1 15.3	42	+4.0
48	33.5 33.2	15		48	31.0	30.5	19		48	36.9	36.5	10		48	14.5	I4.I	45	
50 52	35.5 35.2 37.3 37.0	12		50 52	31.3	31.0	18		50 52	36.6 36.1	36.0 35.8	10		50 52	13.3	12.6 12.0	47 48 48	
54 56	38.0 37.7	09		54 56	31.6	31.3	18		54 56	35.9	35.6	11		54 56	12.2	12.0	48	
56 58	36.5 36.1 34.5 34.1	13		56 58	31.4	31.3 30.8	18		56 58	35.9 35.6	36.0 36.0	II		56 58	I2.5 I3.2	12.2 13.0	48 47	
700	33.7 33.2	15	+5.0	19 00	31.6	31.2	18	+5.7	3I 00	36.1	35.6	11	+4.8	23 00	14.5	14.1	45	+3.9
02	34.0 33.8 34.8 34.2	14 13		02 04	32.3 33.1	32.0 <b>32.</b> ნ	17 16		02 04	35.6 35.5	35.0 35.0	12		02 04	15.8	15.2 17.2	43 40	
04 06	34.5 34.1	13	İ	06	33.6	33.2	15		06	35.5	35.0	12		06	19.1	18.9	37	
08	33.5 33.0	15 17		08	33.8 33.3	33·3 33·0	15		08	35.6 36.2		12 11		08	2I.0 22.0	20.2 21.6	35 33	
IO I2	32.3 32.0 32.9 32.5	16		12	32.8	32.3	15 16		12	37.2	36.8	09		12	22.1	21.9	33	
14	32.9 32.4	16	+5.0	14 16	32.3 32.2	32.0 32.0	17	+5.9	14 16	38.3	37.9 38.6	07	+4.3	14 16	21.6		34	+3.8
16 18	32.3 32.I 32.I 32.I	17		18	32.2	31.9	17		18	38.6	38.2	07		18	23.2	22.8	31	
20	33.0 33.0	16		20 22	32.1	31.8	17		20 22	37.4	37.2 36.4	10		20 22	22.5	22.2 2I.3	32 34	
22 24	35.0 34.5 36.0 35.6	12		24	32.2 32.5	31.8	17		24	37.6	37.2	09		24	10.6	18.8	37	
26	37.0 36.7	09		26	33·3 32.8	32.2	16		26 28	38.8 39.0	37.2 38.3 38.6	07		26 28	16.5 15.0	16.3 13.8	42 45	
28 30	37.2 36.9 38.2 37.8	08	+5.0	28 30	32.8	32.4 32.5	16	+5.6	30	39.3	38.8	06	+4.1	30	13.4	12.5	47	+3.0
32	38.8 38.2	07	1 3.0	32	33.2	33.0	15	300	32	39·3 38·5 37·7	38.2 37.1	07		32	11.6	12.3 10.6	49 50	
34 36	38.1 37.8	08 08		34 36	34.1	33.8 33.8	14 14		34 36	37.2	36.6	09		34 36 38	11.6	II.O	50	
38 38	38.0 37.4 38.1 37.6	08		38	34.2 33.8	33.5	15		38 40	37.2 37.5 38.6	36.8 37.8	09 07		38 40	11.3	11.0 9.6	50 52	
40	38.5 38.0	07		40	33.0	32.8	16		42	40.0	39.2	05		42	8.2	7.8	55	
42 44	39.5 39.0 40.7 40.0	06	+5.0	42 44	31.9	31.9 31.3	17		44 46 48	41.0	40.0 39.3	04 05	+4.0	44*2 46	40.8 39.6	38.6 37.6	57 58 59	+3.4
46	40.3 39.5	05		44 46	32.3	32.I	17	+5.3	48	39.9	39.0	05		48	39.2	37.6	59	
48	39.2 38.6	06		48 50	34.0 35.3	33.8	14		50	30.0	38.3	07		50	39.1	37.5	59	1
50 52	37.3 36.9 36.0 35.3	11		52	36.7	35.0 36.6	10		52 54	38.9 37.8 36.8	38.1 37.2	07 08		52 54	39.6	<b>38.</b> 0	59 58	
52 54 56 58	35.8 35.1	12		54 56	37·3 37·2	37.I	09		54 56 58	36.8	36.2	10		54 56 58	39.5	37.6	59	) [
50	36.6 35.6 36.9 36.2	10	+5.2	58	37.2	37.0 37.3	09		58	35.0	35.2	12		24 00	39. I	37.6 35.7	20 59 21 01	

Observers—A. F. and W. J. P., who alternated from 17h 48m to 17h 56m.

Correction to local mean time is — 14s.

Torsion head at oh oom read 255° and at 24h 20m read the same.

Observer—W. J. P.

Tabulation of magnetic declinations observed at Alger Island Station—Continued

erted	cale inv	Magnet s	λ		05	21, 19	y, July	Frida	erect	et scale	Magne				1905	uly 20	sday, J	Thur
Tem C.	East decli- nation	Scale adings t Right	chr'r rea		East decli- nation	ings -	Sc. read Left	Chr'r time	Temp.	East decli- nation	ings	Sca readi Left	Chr'r time	Temp. C.	East decli- nation	ale ings Right		Chr'r time
•	0 ,	l d	n m d	• h	. ,	d	ď	h m	•	0. ,	d	d	h m	•	0 /	d	d	h m
+1.5	20 07 06		2 00   63., 02   63.	+2.0   22	20 20 20	50.7 50.3	53·5 53·2	20 00 02	+6.4	20 08 08	50.3	50.3 50.0	18 00	+7.5	20 06 07	49.6 50.0	48.9 49.2	6 00 02
	04	8 62.6	04 64.		20	50.5	52.9	04		07	49.8	49.6	04		08	50.4	50.0	04
	.09 12		o6 62.; o8 59.		24 26	48.3	50.6 49.2	06 08		06 06	49.3 48.8	49.1 48.6	o6 o8		<b>0</b> 9	51.3	50.8 50.5	06 08
	08 11		10 62.; 12 59.9		29 33	45.0 43.1	47.0 45.1	I0 I2		06 06	49.0 49.1	49.0	10 12		o8	st 50.8	L,c 50.2	10 12
+1.5	IO	0 59.5	14 61.0	+1.9	31	44.4	46.1	14	+6.1	07 08	49.7	49.3	14 16	100	08	50.6	49.9	14 16
	13 11	0 59.5	16 59.1 18 60.0		26 16	48.0 54.1	49.0 55.1	16 18		10	50.7 51.9	50.I 51.I	18	十7.5	07 06	50.2 49.3	49.3 48.8	18
	13 14		20 58.6 22 58.2		14 16	55.6 54.3	56.8 55.6	20 22		12 12	53.0 53.0	52.3 $52.2$	20 22		o6 o6	49.2	48.9 48.9	20 22
	12	1 58.9	24 59.		22	50.3	51.1	24 26		13	53.6	53.0	24 26		08	50.1	49.7	24 26
	12 12	I 58.0	28 50.		20 18	51.7 53.0	52.6 54.1	28		14 14	54.0 54.5	53.6 54.0	28		09 08	50.9 50.6	50.3 50.3	<b>2</b> 8
+1.5	15 20		30 57.8 32 54.5	+1.6	14 14	55.6 56.0	56.6 56.9	30 32	+5.8	15 14	54.8 54.1	54. I 53. 9	30 32	+7.5	o8 o8	50.5 50.5	50.1 50.3	30 32
	16	2 56.6	34 57-2		15 16	55.0	55.8	34		13	53.7 53.8	53.3	34 36		09 14	51.1	51.0 54	34 36
	17	0 60.0	36 56.2 38 60.0		17	54·3 54·3	55.1 55.0	34 36 38		13	53.8	53·5 53·4	38		16	55.3	55.I	38
	13		40 59.1 42 61.8		17 14	54·5 55·9	55.0 57.0	40 42		13 12	53.3 53.0	53.0 52.6	40 42		16 15	55.8 54.5	55·4 54·3	40 42
<b>+1.</b> 5	12	I 59.0	44 59.1 46 60.3	+1.6	13	56.6	57.6 58.5	44 46	+5.5	12 10	52.8 52.0	52.2 51.5	44 46	+7.0	12 10	52.8	52.5 51.3	44 46
	10	0 60.0	48 60.0		13	56.5	57.3	48	:	11	52.1	51.7	48		10	51.6	51.1	48
	09		50 61.2 52 61.3		12	57·3 56.6	58.7 57.8	50 52		12 12	52.8 53.0	52.2 $52.3$	50 52		II II	52.1 52.0	51.8 51.8	50 52
	I2 II	0 59.3	54 60.0 56 60.2		15 16	55.2 54.5	56.8 56.2	54 56		12 11	53.0 52.6	52.5 52.0	54 56		I2 I2	52.5 52.9	52.3 52.7	54 56
	13	2 58.8	58   59.2		16	54.6	56.0	58		12	52.8	52.0	58	160	14	54.I	54.0	56 58
+1.6	13	1 58.9 8 57.6	02 57.8		18	52.9	55.0 56.0	2I 00 02	+5.1	I2 I2	52.9 53.5	52.0 52.5	19 00 02	+6.8	16 17	55.1 55.8	55.0 55.6	00 02
	17	6 56.3	04 56.6 06 56.7		20 19	51.8 52.3	54.6 54.8	04 <b>0</b> 6		15 16	55.0 56.0	54.2 54.9	04.2 06		17 17	56.2 56.0	56.0 55.4	04 06
	₹ 14	6 58.3	08   58.6		21	51.1	53.1	o8		17	56.0	55 - 5	08		16	55.2	54.8	<b>o</b> 8
	21	erľk'd			2I 20	51.3	53·5 53·9	IO I2		17 13	55.3 55.9	55·3 51·1	I0 I2		15 15	54.6 54.8	54.3 54.8	10 12
+1.7	16 18	2 57.1 6.0a	14 57.2 16 50		20 17	52.3 54.3	54.0 56.1	14 16	+5.1	16 13	55·5 53·7	54.7 53.1	14 16	+6.7	15 14	54.6 54.2	54.3 54.0	14 16
	15	8.20	18 5		14	55.9	57.8 55.6	18 20		13	53.6	53.I 52.0	18 20		14	54.0 53.8	53·4 53·2	18 20
	17 17	6 56.6	20 56.8 22 56.6		16	53.1 53.7	57.0	22		13	53.2	53.0	22		13 13	53.8	53.5	22
	13 14	6 59.3 4 58.4	24 59.6 26 58.4	11	I5 I2	55.0 56.9	58.0 60.3	24 26		12 11	52.8 52.6	52.3 52.1	24 26		13 13	53.8	53.2 53.5	24 26
0	14	7 58.6 I	28   58.7		15	54·5 55·5	60.3 58.5 58.2	28 30	+5.0	10	51.3 50.9	50.9 50.3	28 30	+6.6	13 13	53.6 54.1	53.0 53.3	28 30
+1.8	12 16	9 <b>59.5</b> 6 <b>57.0</b>	30 59.9 32 57.6		17	53.5 56.5	57·5 60.0	32	73.0	09 06	49.4	49.0	32	""	14	54.0	53.6	32
	12 02	0 50.8	34 60.0		12 11	57.9	60.6	34 36		o8 o6	50.3 49.2	50.0 49.0	34 36	r	13	53.9 53.6	53·3 53·3 52.8	34 36 38
	05	8 63.8	36 67.0 38 64.8		15 19	54.9 52.2	58.1 55.8	38 40		об 08	49.0	49.0 50.3	38 40		12 11	52.8 52.3	52.8 52.2	38 40
	05 15	8 64.0 8 58.1	40 64.8 42 58.8		15	55.3	57.9 58.8	42		07	50.3 49.8	49.6	42	16 -	11	52.2	52.1	42
+1.8	11 05	o 60.6   3 64.3	42 58.8 44 61.0 46 65.3 48 62.5	+1.5	I4  - I2	56.0 57.3	59.5	44 46	+5.1	8o	50.5	50.5 51.7	44 46	+6.5	II I2	52.5 53.0	52.1 52.8	44 46 48
	09	5 61.3	48 62.5		12 10	57·3 58.2	59·5 60.9	48 50		11 12	51.8 53.0	51.8 52.7	48 50		12 11	53.I 52.5	53.0 52.2	48 50
	13 16	7 59.3 2 57.6	50 59.7 52 58.2		07	60.3	62.0	52		15	55.0	52.7 54.8	52		11		52.0 51.6	52
	18	9 56.3	52 58.2 54 56.9 56 56.0 58 52.0 00 53.8	150	08	60.8 60.3	62.5	54 56		17 20	56.0 58.0	55.6 57.5	54 56 58		09	51.0	51.0	50 52 54 56 58
+1.7	20 26 23	0 51.3 8 53.1	58 52.0 00 53.8	37	04	62.5	64.8	-58	+5.2	22 24	59.7 60.5	58.9 60.0	58 20 00		<b>o</b> 9	51.0	51.0	58

Correction to local mean time is - 13s.

Torsion head at 16h oom read 255° and at 20h 15m read the same. Observer—W. J. P.

Correction to local mean time is —8s. 90° torsion = 16.'81. Torsion head at 20h oom read 282° and at 24h 15m read 252°. Observer—W. J. P.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Sund	ay, July 23, 1	1905				Magne	et scale	erect	Sund	ay, July 23,	1905			M	agnet s	scale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	Sca readir	ngs	East decli- nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Tem C.
m	d d		•	h m	d	d	0 /	•	h m	d d	0 /	0	h m	d	d	0 ,	•
00 <b>*</b> 02	44.0 46.3 37.8 39.2	20 2I II	+3.0	2 00	35.1 68.0	39.0 68.0	19 58	+3.4	4 00.6	75.6 72.6 75.1 71.9			6 00*	37.0 27.3	34.8	23 27 44	+2.9
04 06	31.6 33.3 34.6 35.8	01		04 06*	61.0		20 37 22 57		04* 06	64.0 56.8 66.3 59.9	32	+3.0	04 06	55.8 48.7	49.0 41.5	0I 23 I2	
o8	44.2 44.6	20	1	•8e	26.0	31.0	21 50		08	67.5 60.0	26		o8	61.5	54.5	22 52	
10 12	48.1 50.1 52.0 54.0	28 34		I0 I2		20.3 34.5	32 53		10 12	76.1 62. 74.0 68.	15		I0 I2	45.6 56.2	41.3 44.0	23 I5 23 05	
14 16	45.2 46.0 40.0a	22 I3	+3.1	14 16	19.0	26.2 24.2	41 37	+3.3	14 16	74.1 68.8 71.3 67.0	1 2	+3.1	14 16*	78.2 43.7	72.5 $38.9$	22 25 13	+3.
18	60.0 60.6	45		18	5.0	10.3	17.		18.5	61.8 51.8	37		18	32.5 28.4	26.0 22.2	3 <sup>2</sup> 38	
20 22	46.8 49.5 37.8 39.8	26 11	,	20 22*	9.0	24.8 16.0	21 38 19 19		20 22	67.5 64.5 64.6 60.5	29		20 22	41.9	36. I	22 16	
24 26	33.6 35.5 31.2 32.0	04		24* 26	4I.0 42.0	54.2 53.0	2I 03 03		24 26	63.0 59.4 58.9 55.			24 26	59.1 66.0	54.8 62.0	21 48 37	
28 30	33.1 35.3 36.5 38.0	04 09	+3.1	28 30	45.5 41.6	56.0 51.6	08 21 02	+3.2	28 30	63.5 61.6 59.8 55.6	29	+3.0	28 30	59·9 57·5	56.8 53.3	46 50	+3.
32	38.7 39.0	11	13.1	32	32.0	42.3	20 47	3.2	32	53.9 50.8	3 45	1 3.0	32	56.5	53·5 38.8	21 51	
34 36	34.0b 23.1 24.5	20 04 19 48		34 36	31.3 29.3	35.8 34·3	41 39		34 36	44.7 42. 51.6 48.	48		34 36 38	42.I 26.2	24.I	22 I4 38	
38 40	18.5 18.8 16.4 17.2	40 19 37		38 40	34·5 45·5	39.6 50.0	20 47 21 <b>0</b> 4		38 40	52.0 49. 42.0 40.			38 40	20.6 39.9	18.2 33.8	47 20	
42	32.6 33.2	20 02	10.7	42	41.8	46.4	20 58		42	34.2 33. 23.0 2I.	3 14	+2.9	42	37·5 42·9	33.I 39.8	22 22 I3	
44 46*	16.0 17.2 35.5 48.3	19 36 21 45	+3.1	44 46	45.8 42.8	49.4 46.2	21 03 20 59		44 46	34.0 32.	15		44 46	60.7	57.0	21 45	+3.
48 50*5	16.8 21.2 48.0 51.0	2I 09 20 24		48 50	50.5	46.1 55.9	20 58 21 12		48 50	40.3 37.0 55.8 52.			48 50	62.5 58.0	60.1 56.5	41 48	
52 54	47.0 50.3 39.3 42.8	22 10		52 54*	58.3	62.6 64.0	24 21 56		52 54	55.8 51.6 35.5 34.6			52 54	58.9 62.2	45.2 52.5	56 48	
56	37.3 40.0	07		56	58.3	63.8	22 00		54 56 58	22.2 20.0 15.0 12.0	34		56 58	77.5 76.5	56.0 60.1	33 30	+3.
58 00	47.9a 49.3 57.0	21 29 58	+3.1	58 3 00	43.2	53·5 48·9	21 43 36	+3.0	5 00	21.8a	32	+2.8	7 00	79.0	6 <b>7.</b> I	23 26	1.3.
02 04	68.5 74.8 45.0 52.8	58		02 04	32.0 35.0	39.0 40.0	20 23		02	35.5 31.8 24.5b	28		02* 04	46.9	36.0 36.5	20 27	
o6 o8	48.0 56.0	23 28 20 3I		06 08	40.8	45.4 48.8	32		06 08	13.5 11.0 30.5a	48		06 08	47.5	37·3 33.0	24 28	
10*	41.8 47.8	22 24		10	38.3	43.8	35 28		10	34.5 32.	3 14		I0 I2	43.I	29.7	33	
12* 14	31.3 51.0 10.0 43.0	23 02 22 39	+3.1	I2 I4	1	46.5 40.4	33 24	+2.9	12 14	37.2 35.9 49.0 48.0	21 51		14	48.8	33.8	36 26	+3.
16* 18*	30.3 46.3 50.8 54.0	21 48		16 18	29.3 29.7	33.0 32.2	13 13		16	40.8 38.8 32.0b	3 22 04 16	+2.8	16 18	54.2 61.9	40.9 41.3	16	
20*	35.5 46.3	22 39		20	34.9	37.9	21		20 22	27.5 25. 30.9 27.			20 22	65.2	45·5 46.0	04 02	1
22 <b>*</b> 24	42.2 49.0 35.0 39.0	2I 35 2I		22 24 26	39.6	39.0 42.6	24 29		24	44.7 42. 38.5 37.			24	66.7	47.2	10	
26 28	29.2 32.3 31.0 32.6	11		26 28	41.0 46.0	43.8 47.8	31 38		26 28	42.1 38.0	04	l.	26 28	66.0 68.6	49.5	21 00 20 58	
30	32.7 36.I	21 17	+3.2	30	59.2	61.4 63.3	2I 59 22 02	+2.8	30 32	43.2 40.0 37.6 35.		+2.9	30 32	74·3 74·0	56.0 56.5	48 48	+3.
32 34	22.5 22.8 17.1 18.1	20 58 20 51		32 34	54.6	58.o	21 52		34 36	38.7 35.1 46.6 42.1	22 08		34	67.3 63.5	56.2	20 54	
34 36* 38*	40.5 40.5 34.6 45.2	22 29 21 17		36 38	46.3	48.1 41.9	38 29		38	51.5 49.9	47		36 38	58.8	44.9	2I 02 09	
40*	63.0 80.0	23 27		40	34.8	37.0	20		40 42	52.8 51.: 54.4 53.			40 42	57.4 60.1	44.8 47.2	06	
41.5 44	51.0 67.2 46.0 76.0	08 23 II	+3.3	42 44	40.6	33. I 43.9	14 30	+2.8	44 46	55.2 53.0 45.3 43.0	42	+2.9	44 46	61.0	49.3 51.2	04	
44 46 47*9	5.0 28.3	22 OI 23 38		46 48		55.9 57.2	49 53		48	30.5b	22 19		48	61.0	49.6	01	
50*	31.0 58.8	22 22		50	45.1	46.2	36		50 52	28.5 26.8 17.8 15.8	3 24 3 40		50 52	57.5	45.0 47.0	08	
52* 54*	26.8 56.5 38.0 69.0	2I 37 20 25		52 54		50.2 66.8	2I 4I 22 05		54 56	10.5 9. 12.1 10.	51		54 56	55·4 57·9	46.5	II	
52* 54* 56 58	30.3 34.8	19 52		56 <b>58*</b>	76.0	78.0 48.8	25 10		58	7.5 7.			58	56.9	48.2	07 08	
50	28.5 42.0	56		20	40.2	40.0	10		I				8 00	58.9	56.0	00	'

Observers—W. J. P. and A. F., who alternated from 3h 58m to 4h 08m.

Correction to local mean time is —6s. Torsion head at oh oom read 252° and at 9h 25m read the same. Observer—A. F.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Mond	lay, July 24, 1	1905				Magn	et scale	erect	Tues	day, Ju	ıly 25,	1905			Mag	net s	cale inv	erted
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca read	ings	East decli- nation	Temp. C.	Chr'r time	Scread	ings	East decli- nation	Temp. C.	Chr'r time	Scal readii	ıgs	East decli- nation	Temp C.
h m	d d	0 ,	0	h m	ď	d	0 ,	0	h m	d	d	0 ,	0	h m	d	d	0 ,	0
8 00* 02	39.8 41.5 39.2 45.6	<b>20 53</b> 56	十7.5	10 00 02*	<b>22.8</b> 46.2	24.2 54.8	19 59 21 30	+8.6	12 00 02	45.6	<b>44.6</b> 40.6	19 45 51	+6.5	14 00 02		28.3 28.0	20 I2 I2	+4.3
04	33.6 37.1	44		04	68.9	72.6	22 02		04	40.5	40.I	53		04 06		27.0 24.8	13 17	
o6 o8	37.1 41.6 17.8 22.6	51 21		06 08	60.8 60.1	64.8 76.0	21 49 57		06 08	37.9	37.0 33.8	19 57 20 02		08	25.2	24.6	17	
IO	10.2 15.8	09		10	62.0 52.8	69.2	54 21 41		10	29.6	28.6 23.8	10		I0 I2		24.0 23.3	18	
12 14	11.1 20.1	13 26	+8.0	12 14	Lo	st	21 41		I2 I4	24.4 26.8	25.5	15	+6.0	14	23.I	22.5	20	+4.9
16	9.0 11.9	05		16 18*	23.8	35.8 38.6	20 57	+9.0	16 18	27.0 26.3	26.2 24.7	14 16		16 18		21.7 20.3	22 24	
18 20	Lost 25.6 28.6	32		20	20.0 II.2	32.8	2 <b>7</b> 16		20	28.0	27.5	13		20	21.3	21.3	23 18	
22	12.0 20.2	14 22		22* 24	28.2 52.6	52.8 55.1	20 27		22 24	29.I 23.0	27.8 21.6	12 21		22 24		23.3 24.8		
24 26	17.8 25.0	12		26*	53·5 55.8	58.0	21 13		26	22.0	21.0	22		26	24.3	24.I	17 18	
28	18.6 24.6 32.7 35.3	23 42	+8.0	28 30	55.8	58.1 56.0	14 10	+9.4	28 30	16.8 14.1	16.0 13.1	30 35	+5.4	28 30		25.2   27.0	16 14	+5.1
30 32	32.7 35.3 17.8 27.8	25 28	10.0	32	54.3	63.5	21 18		32	15.3	14.5	33	, ,	32	25.8	25.2	14 16	'
34 36	19.4 20.6	, 28 53		34 36 38	54·3 43·8 58·0	48.8 65.3	20 58 21 22		34 36	13.8	13.3 15.0	35 32	1	34 36 38		24.5 25.3	18 16	
38	21.5 36.2	34		38	64.8	78.5	38		38	16.0	15.2	32		38	25.4	25.0	16	
40 42	22.8 38.5 26.9 28.0	37		40* 42	54.8 56.3	61.0 64.8	47 51	į	40 42	15.8	14.8	32 34		40 42		25.0 24.1	17 18	
44 46	24.1 25.7	32 28	+8.0	44 46	56.8	66.6	21 53		44 46	16.2	15.6	31	+5.0	44		24.0	18 18	+5.2
40 48	20.0 24.6 34.3 39.0	24 46		40 4 <b>8</b> *	61.0 56.0	73.0 65.8	22 OI 15	+9.5	48	20.8	19.6 21.6	24 22		46 48		24.I 22.7	20	
50	21.3 24.4	25		50	64.0	73.1	27		50	23.1	23.0	20		50 52		23.4	19 18	
52 54	18.2 23.0	2I 20 IO		52** 54	63.0 57.8	71.6 58.3	36 21		52 54	22.5	22.I 2I.3	20 22		54 56		24.5 25.3	16	
56	54.8 57.8	21 17		56 58	68.2	80.0 72.8	46 38		54 56 58	19.2	19.0	<b>26</b> 26		56 58		25.5 25.5	16 16	
58 00*	11.2 12.3 28.0 38.1	19 20	+8.0	11 00	60.3	71.7	34	+9.5	13 00	19.3 20.1	19.0 18.8	<b>26</b>	+4.5	15 00		<b>24.9</b>	17	+5.2
02*	70.6 75.8	20 45 48		02	55·3 48·5	71.1 69.5	29 22		02	21.3 22.9	20.7	23 21		02 04		25.1 25.0	16 16	
04* 06	32.8 47.2 7.5 30.2	14		04	47.1	59.8	14		04	24.2		19		06	26.2	26.0	15	
08	22.I 24.7	22 36	1	08	39.6	54.6 63.0	04		08	25.3 28.7	24.6 28.5	17		08		26.5 26.7	13 14	
10 12	26.2 39.4 20.0 28.5	23		12	37.5	57.0	04		12	35.3	34.3	20 01		12		26.5	14	
14 16*	8.0 15.6 36.8 46.4	20 04 19 42	+8.0	14 16	48.8	59.7 81.0	15 47	+9.5	14	43.3 52.0	43.I 51.I	19 48 35	+4.0	14	27.3	26.3	14	+5.
18	57.8 71.5	20 18		18*	45.5	52.3	47		18	53.0	52.5	33		18	27.6	26.6	14	
20* 22	38.8 57.8 42.0 71.2	44 20 57		20 22	35.2	50.2 56.0	38 41		20 22	54.9 55.2		31		20 22	29.I 30.I	28.0 29.1	II	
24	52.3 77.8	2I IO		24	19.3	39.3	17		24	52.8	-51.5	34		24		30.2	80 ,	
26* 28*	23.5 43.0 36.2 48.3	20 05	+8.1	28	16.0 19.2	31.4	11		20 28	51.0 50.6	49.4	37 38		26 28	32.2 34.1	31.8	00	
30 32**	54.7 72.3	20 35		30	26.5 30.8	31.1	16	+9.2	30	49.6 48.3	48.8	39	+4.0	30	35.8	34.9 36.6	20 0I 19 58	+5.
32" 34	43.0 59.1 37.2 50.2	2I 24 2I I3		32 34	32.2	44.5	29 31		32 34	51.9	51.3	41 35		32 34		37.0	57	
34 36 38 40	28.0 38.4	20 56		34 36 38	26.9	36.1	20 I4		36 38.	52.0 5 52.0		36		34 36 38	37.1	36.5 34.1	19 58	
30 40	18.8 25.3 25.8 34.2	39		40	21.3	24.2	22 05		40	50.0	50.0	35 38		40	33.2	32.8	04	
42	10.1 20.9	29 21		42*	20.7	24.2	21 45 <b>2</b> 6	+9.0	42	48.5 45.1	48.0 45.1	40 45	+4.0	42	33.2 31.6	32.6 30.8	04	
44 46*	6.3 15.2	19		44* 46 48	31.0	45.0	11	1-9.0	44 46	42.6	42.2	50	1.4.0	44 46 48	29.8	28.5	10	1
48	31.0 40.5 27.8 37.8	18		48 50	36.5	39.7	2I II		48 50	40.2	38.6			48	27.1 25.5	26.1 24.6	14	
52	24.2 30.8	20 05		52	22.2	43.2	21 02		52	33.8	33.0	20 04		50 52	24.3	23.7	18	;
50 52 54 56 58	10.0 17.6 Lost	19 44		54 56	35.2	56.2	23		54 56	34.3	34.1	02		54 56 58	24.6	23.8 22.0	18	
58	20.2 24.8	58		58	31.3 36.6	34·5 36.6	04		58	30.3	31.9 29.1	10		58	23.1	22.4	20	•
				12 00	30.6	42.6	13	+8.9	]					16 00	23.3	22.5	20	+5.

Correction to local mean time is — 5s. Torsion head read 252° at beginning and ending. Observer—W. J. P.

Correction to local mean time is +6s. 90° torsion = 17.'13. Torsion head at 12h oom read 261° and at 16h 20m read 258°. Observer—W. J. P.

# Tabulation of magnetic declinations observed at Alger Island Station-Continued

	1	l <b>y 26, 190</b> 5			Magn	et scale	erect	Wed	lnesday, <b>J</b> uly	26, 1905				Magn	et scale	erect
ır'r me	Scale reading Left Rig	nation	Temp. C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	cale lings Right	East decli- nation	Tem; C.
m 00*		i ° , O 21 43	+4.0	h m	d d 46.8 47.2	。 , 20 44	+3.9	h m	d d	0 ,		h m	d	d	0 ,	
02 04 06	33.4 42. 20.8 30. 31.1 39.	4 26 7 07		02 04	50.8 <i>a</i> 54.2 54.8	50 56	13.9	4 00 02 04	39.0 41.2 36.8 38.0 31.8 33.2		+3.8	6 00 02 04	50.3 52.0 51.2	51.0 53.0 52.0	2I 02 05 04	+4.1
80	35.3 40. 25.4 30.	1 26		06 08 10	55.3 56.0 55.0 55.8 54.2 55.2	58 57 56		o6 o8	29.5 30.9 28.5 30.0	19 17		06 08.1	52.0	52.5 51.9	05 03	
[2 [4	16.4 21. 22.0 26.	3 21 04	+4.1	12 14	50.8 51.1 36.2b	50 27		IO I2 I4	32.0 33.2 32.3 33.0 27.3 29.2	23 23 16	+3.8	10 12	50.5	51.7 52.6	03 04	
16 18* 180	9.4 I3. 37.8 40. 21.2 22.	0 31		16	24.4 26.5 25.8 27.1	10 12	+3.9	14 16 18	27.8 29.0 25.8 27.5	16	T3.0	14 16 18	49.6 47.9 45.1	50.6 49.3 46.8	21 01 20 59 20 55	+4.2
22 24	23.2 25.	8 08 8 08		20 22 24	24.2 26.2 25.0 26.3 29.8 31.8	10 10 19		20 22	22.7 24.2 11.5 13.8 6.5 7.5	2I 08 20 5I		20 22	49.3 48.5	51.6	2I 02 2I 00	
ю 8 ю	27.8 29. 30.9 33. 31.2 33.	2 20		24 26 28	31.2 32.4 34.2 34.7	20 24		24 26* 28	6.5 7.5 41.8 44.2 49.2 52.8	20 50 21 03		24 26 <b>28</b>	45.5 45.7 49.3	47.0 46.1 49.9	20 55 20 54 21 00	
2 4 6	33.0 35. 35.0 37.	3 24	+4.1	30 32 34	31.0 32.0 31.8 32.3 35.2 36.4	20 20 26	+3.6	30 32	45.2 48.8 46.0 48.5	20 56 57	+3.9	30 32	47.8 52.0	48.9 52.8	20 58 21 05	+4.5
8	34.8 37. 44.2 45.	2 27 40		34 36 38	40.8 41.2 43.0 44.1	35 38		34 36 38	44.8 47.8 42.7 46.0 42.3 45.7	55 52 52		34 36 38	44.3 39.9 42.3	45.0	20 52 46 20 50	(
0 2 4	46.0 48.0 49.4 50.8 52.5 53.8	49	+4.1	40 42 44	52.0 53.2 63.3a 66.8 67.3	20 53 21 10 15		40 42	39.4 42.9 36.4 39.1	47 42		40 42	52.3 42.9	43.9 52.5 43.0	20 50 21 05 20 50	
4 6 8	56.0 57.8 51.1 52.3	21 00	412	46 48	57.2 58.8 56.2 58.2		+3.4	44 46 48	39.9 42.0 39.8 42.9 39.0 41.0		+4.0	44 46 4 <b>8</b>	4I.0 34.I	41.6 36.2	47 38	+4.6
2 .	45.8 46.9 44.2 45.2 42.5 43.8	40		50 52 54	62.5 64.5 68.8 70.9 69.7 71.3	10 20 21		50 52	40.5 42.5 36.6 38.5	45 48 41		50 52	30.8 36.2 36.5	32.2 37.5 37.0	32 40 40	
5	42.2 43.2 41.2 42.2	37 36	1,	56 58	64.0 64.9 61.0 62.0	11 07		54 56 58	36.0 37.7 38.0 40.4 40.2 41.8	40 44 47		54 56 58	31.3 36.0	32.9 36.8	33 40	
2	38.6 39.9 38.6 39.6 40.0 41.1	32	-4.I	3 00	64.0 65.0 67.7 68.5 69.0 69.8	17	+3.4	5 00 02	38.8 40.3 37.8 39.1	44 -	<del>-</del> 4.0	7 00	30.1 32.9 34.0	31.2 33.1 35.3	30 34 37	+4.6
	4I.0 42.0 4I.0 42.I		1	04 06 08	69.2 70.4 67.8 69.0	19 20 18		04 06 08	39.8 41.4 41.0 42.9 41.0 42.7	43 46 48 48 56		04 06 08	30.8 27.0	33.8 28.1	33 26	
	43.5 44.4 46.8 47.9 48.0 48.9	44	-4.0	10 12 14	68.8 69.9 74.0 75.2 71.9 73.5	19 27		IO	46.1 47.8 41.2 42.5	48		10 12	_	33.7 28.0 27.9	34 26 25	
	52.7a 55.2 56.0	53 57	4.0	16	67.2 68.7 69.5 70.4	24 17 20	-3.7		43.4 45.0 47.6 49.0 47.2 48.2	52 58 57	-4.0	14 16 18	34.0 35.4	35.9 36.6	39	+4.8
	53.9 54.2 51.2 51.8	55 51 20 58		20 22 24	67.1 68.5 71.0 72.8 77.0 77.8	17 23		20 22	44.7 45.9 47.8 48.8	54 58		20 22.5	38.3	34.2 42.3 34.3	35 46 35	
i	55.8 56.5 58.0 58.5 62.5a	21 02 08		26* 28	37.8 41.2 41.2 44.8	32 34 39		24 26 28	46.2 47.5 49.5 50.8 46.2 47.2	20 56 21 01 20 56		24 26 28	36.7 37.6	37.0 39.6	40 43	
-   -	62.5 63.2 61.5 61.7	07	4.1	32	43.6 46.8 43.0 46.2	43 <del>   </del> 42	-3.8	30   32	46.6 47.6 47.5 48.3		-4.I	30	37-7	37.9 38.9 38.5	40 43 42	<b>⊹4.8</b>
-   4	60.2 60.5 63.0 63.7 60.7 61.2	05 10 06		36	43.2 46.0 39.6 42.8 37.0 39.2	42 36 32		36	49.4 50.2	20 54 21 01 20 57		34	37.7 38.4	39.3 40.0	43 44	
	58.4 59.0 51.0 62.0	02 07	11	40 4	45.4 46.5 48.9 50.5	44 50		40 4	47.5 48.6	20 58 21 00		38 40 42	41.3	40.3 42.0 39.6	44 48 44	
10	55.8 67.2 58.2 69.0 50.0 61.2	15 18 21 05	4.0	46	47.I 49.0 48.4 50.2 48.8 50.0	47 + 49 49	3.8	40 2	19.2 50.6		4.1	40	40.0	38.5 41.0	41 46	H4.8
4	50.7b 6.0 46.5	20 50 43		50 4 52 3	14.5 45.8 19.8 41.2	42 35		50 §	51.1 52.7 51.0 52.2 49.0 50.0	04 04 00		50	ვნ.ი :	42.8 37.0	50 40	
4	7.2 48.0 7.6 48.1 8.5 48.9	45 45 47		54 3 56 3	36.3 37.9 8.3 40.8 0.2 42.2	30 34 36		54 4 56 5	19.8 50.7 51.1 52.3 50.8 52.0	01 04		54	ვნ.ი ;	10.2 36.6 31.1	45 40 31	

Observer-A. F.

Observers-A. F. and W. J. P., who alternated from 6h 02m to 6h 12m.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca readi Left	ngs	East decli- nation	Temp C.	Chr'r time	read	cale dings Right	East decli- nation	Temp. C.	Chr'r time	Scale readings	East decli- nation	Tem. C.
1 m 3 00 02 04 06 08	d d 30.7 32.0 28.6 29.7 27.3 28.1 28.1 28.5 27.2 28.0	20 32 28 26 27 26	+4.5	h m 10 00 02 04 06 08	d 28.1 29.0 28.5 27.9 28.3	d 28.5 29.0 29.2 28.2 28.6	20 27 28 28 28 26	+4.8	h m 12 00 02 04 06 08	d 23.2 22.8 21.7 20.8 21.0	d 23.6 23.6 22.9 23.2 23.0	20 19 19 18 17	+6.3	h m 14 00 02 04 06 08	d d 22.1 22.6 21.8 22.3 20.5 21.1 21.0 21.6 21.0 21.5	20 18 17 15 16	+7.9
10 12 14 16 18 20 22 24	28. I 29. 0 27. 0 27. 4 27. 2 27. 2 26. 6 26. 8 26. I 26. 9 26. 0 26. 5 26. 8 27. 2 26. 6 27. 6	27 25 25 24 24 24 25 25	+4.5	10.5 12 14 16 18 20 22 24 26	28.3 28.3 28.0 28.0 27.8 29.1 29.5	29.1 29.5 28.7 28.5 28.1 27.9 29.1 29.5	27 28 28 27 27 26 26 26 28	+5.1	10 12 14 16 18 20 22 24	20.8 20.3 20.5 20.5 21.8 21.8 23.0 24.2	22.6 22.0 22.6 22.4 23.3 23.5 24.5 25.8	17 16 16 16 18 18 20 22	+6.6	10 12 14 16 18 20 22 24 26	21.1 21.7 21.5 22.1 21.5 22.0 20.9 21.2 20.2 21.0 20.9 21.2 21.0 21.8 21.9 22.4	16 17 17 16 15 16 16	+8.2
26 28 30 32 34 36 38	25.3 26.9 26.3 28.7 25.9 28.5 25.6 28.0 26.4 29.0 25.3 27.7 25.5 27.9	23 26 25 25 26 24 24	+4.4	26 28 30 32 34 36 38	29.3 30.3 30.2 29.1 28.0 29.1 28.1	29.6 30.3 30.2 29.5 29.3 29.6 28.0	29 30 30 28 28 28 28	+5.6	26 28 30 32.5 34 36 38	24.0 19.9 18.5 18.3 18.3 18.6	25.3 23.6 21.3 20.5 20.0 20.0	21 18 15 13 12 12 13	<del></del> 7.0	26 28 30 32 34 36 38	22.7 23.2 22.6 23.2 22.3 23.0 22.4 23.2 23.1 23.9 23.0 23.7	18 18 18 18 19	+8.7
40 42 44 46 48 50 52	25.8 28.1 25.0 26.9 25.2 27.5 25.5 27.9 25.6 27.0 28.0 28.9 29.5 31.0	25 23 24 24 24 27 30	+4.4	40 42 44 46 48 50 52	29.0 29.3 29.1 27.8 26.7 25.9	30.1 30.0 30.0 28.8 27.5 26.8 26.3	29 29 29 27 25 24 23	<b>+</b> 6.0	40 42 44 46 48 50 52	18.9 19.0 17.5 17.0 17.3 17.9	20.3 20.4 19.3 18.3 18.9 19.2 18.9	13 13 11 10 11 12	<b>+7.</b> 4	40 42 44 46 48 50 52	22.5 23.2 22.0 22.6 22.9 23.4 22.1 22.8 22.6 23.0 22.9 23.3 22.8 22.9 21.9 22.2	18 19 18	+9.0
54 56 58 00 02 04 06	28.9 30.2 28.6 30.1 29.3 30.0 29.0 31.0 30.0 31.0 30.2 31.6 27.8 30.7	29 28 29 30 30 31 28	+4.2	54 56 58 11 00 02 04 06	25.4 25.2 24.9 24.2 24.5 25.0 25.1	26.3 26.0 25.7 25.0 24.7 25.2 25.3	23 23 22 21 21 22 22	+6.1	54 56 58 13 00 02 04 06	16.3 15.8 13.4 11.9 11.6 12.0 12.2	17.5 16.9 14.9 12.9 12.4 12.9	09 08 05 02 01 02 02	+7.3	54 56 58 15 00 02 04 06	21.6 22.0 21.7 22.0 21.9 22.2 22.6 23.0 23.3 23.7 23.7 23.9 23.0 23.3	17 17 17 18 19 20	
08 10 12 14 16 18 20 22	29.6 32.5 27.3 29.8 27.0 29.4 28.0 30.6 28.3 30.4 29.0 30.8 28.5 30.5 30.2 32.0	31 27 27 28 28 28 29 29	+4.2	08 10 12 14 16 18 20 22	26.1 26.9 26.6 26.3 26.5 25.8 26.0 26.2	26.9 27.0 26.9 26.1 26.2 26.6	24 25 25 24 24 23 24 24	+6.2	08 10 12 14 16 18 20	12.7 13.1 13.6 13.8 14.2 15.6 18.0	13.8 14.3 14.8 15.2 16.5 19.1	03 04 04 05 06 08 12	+7.2	08 10 12 14 16 18 20	22.0 22.3 21.7 21.9 22.1 22.5 22.2 22.9 22.3 22.6 22.2 22.5 22.0 22.4	18 17 18 18 18 17	+9.1
24 26 28 30 32 34 36 38	29.9 31.9 29.0 30.0 28.5 29.3 27.9 29.0 28.0 29.0 27.0 28.0 27.3 28.0	31 29 28	+4.4	24 26 28 30 32 34 36 38	24.6 25.0 25.0 24.9 24.9 24.1 24.2	25.0 25.8 25.3 25.1 25.3 24.6 24.8	21 22 22 22 22 22 21 21	+6.4	24 26 28 30 32 34 36	19.2 19.7 20.2 21.0 22.7 24.0	18.9 20.0 20.4 21.2 22.5 24.4 25.3	11 12 13 14 15 17 19 21	+7.2	22 24 26 28 30 32 34 36	21.9 22.2 21.4 21.9 21.9 22.2 22.3 22.7 23.0 23.0 22.8 23.0 22.7 23.0 22.9 23.0	17 16 17 18 19 18 18	+8.9
38 40 42 44 46 48 50 52 54 55 58	28.0 28.8 26.8 27.8 27.7 28.9 27.3 28.8 29.0 30.0 29.1 30.0 28.4 29.5 29.0 29.9 27.9 28.7 27.2 28.1	27 25 27 26 29 29 28 29 27 26	+4.5	38 40 42 44 46 48 50 52 54	24.0 23.0 23.9 25.3 22.9 22.6 23.1 25.6 26.1	24.8 23.8 24.3 25.5 23.5 22.9 23.4 26.2 26.6 25.3	21 19 20 22 19 18 19 23 24 22	+6.4	38 40 42 44 46 48 50 52 54 56	23.1 23.0 23.1 23.1 23.7 23.7 23.3 22.0 21.4 21.4	24.8 24.2 24.4 24.7 24.3 25.0 24.4 23.0	20 20 20 20 20 20 21 20 18 17	+7.6	38 40 44 46 48 50 52 54 56	22.9 23.0 23.0 23.0 22.5 23.0 22.0 22.4 22.2 23.6 21.4 21.9 22.2 22.4 22.0 22.2 21.3 21.7 21.0 21.4 21.6 22.1	19 18 17 18 16 18 17 16 16	+8.8

Observer-W. J. P.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

	nesday, July	20, 1905		Magn	et scale	erect	Wed	lnesday, July	26, 1905				Magn	et scale	erect
Chr'r time	Scale readings Left Right	East declination C.	Chr'r time	Scale readings Left Right	East decli- nation	Temp.	Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sc. read	_	East decli- nation	Tem C.
h m 16 00	d d	0, 0	h m	d d	0 ,	•	h m	d d	0 ,	•	h m	d	d	. ,	
02	23.0 23.5	20 19 +8.6	18 00 02	20.9 21.0 21.0 21.3	20 15 16	+8.0	20 00 02	22.0 22.7 21.5 21.7	20 18 16	<b>+6.1</b>	22 00	20.9	21.5 21.8	20 16	+4.8
04 <b>0</b> 6	22.6 23.0	18	04 06	21.2 21.5 21.6 22.0	16		04	20.9 21.1	16		02 04	20.8	21.3	16 15 16	
08 10	2I.5 22.0 2I.2 2I.8	17 16	08	22.0 22.3	17		06 08	20.8 21.1 20.9 21.3	15 16		06 08	21.0	21.8	16 16	
12	21.8 22.2	17	10 12	22.3 22.8 22.9 23.0	18 18		I0 I2	20.5 21.1 19.9 20.7	15 14		10	20.9	21.8	16	
14 16	21.7 22.2	17 +8.5	14 16	23.3 23.5	19	+8.0	14	19.3 20.1	13	<b>+6.0</b>	I2 I4	21.7	22.3	17 18 18	+4.8
18 20	23.3 24.0	20	18	23.2 23.4	19 19		16 18	18.9 19.5 18.5 19.0	13 12		16 18	22.0	22.9 21.1	18	
22	24.2 24.6	20 21	20 22	23.3 23.4 23.4 23.4	19 19		20 22	18.3 18.9 18.2 18.8	I2 I2		20	21.0	22.0	15 16	
24 26	24.0 24.5 21.8a	20 17	24 26	23.3 23.6	19		24	18.0 18.5	11		22 24	20.6	21.5	16 15 16	
28 30	19.2 19.8	13	28	23.3 23.5 23.3 23.5	19 19		26 28	17.4 17.9 16.5 17.0	10 09		26 28	21.0 19.9	22.1	16 14	
32	19.4 19.7	I2 +8.4 I3	30 32	<b>23.3 23.8</b> 23.5 23.6	<b>19</b> 19	+7.6	30 32	15.9 16.4 15.8 16.2		+5.6	30	20. I	21.0	15	+5.0
34 36	20.5 20.5 20.9 21.0	15	34 36	23.3 23.7	19			15.6 16.1	07 08		32 34 36		21.8	16 16	
38	21.1 21.3	15 16	38	23.2 23.2	19 19		34 36 38	16.1 16.3 17.0 17.1	08		36 38		21.1	15 16	
40 42	21.3 21.4 21.5 21.7	16 16	40 42	23.0 23.3 22.6 23.0	19 18		40 42	17.9 18.0	11		40	21.0	21.6	16	
44 46	2I.0 2I.3 I9.9 20.3	16 +8.4	44	21.9 22.3	17	+7.2	44	16.8 16.9	10 09	+5.5	42 44	_	22.2	17 19	+5.1
48 `	19.8 20.3	14	44 46 48	21.8 22.2 21.0 21.9	17 16		44 46 48	15.9 16.1 14.8 15.0	o8 o6		46 48	22.3	23.0	18 18	, 0
50 52	19.2 19.9 19.0 19.3	13 13	50 52	20.9 21.3 21.1 21.5	16 16		50 52	14.2 14.3	05		50	22.3	23.0 22.9	18	
54 56 58	18.8 19.3 18.4 18.9	12	54 56	21.6 21.9	17		54 56	I4.I I4.4 I4.3 I4.7	05 05 06		52 54		22.6 22.3	18 17	
58	18.4 19.0	12	58	21.8 22.1 21.3 21.9	17 16		56 58	14.7 14.9 14.7 15.1	o6 o6		54 56 58	22.8	23.3	19	
00 02.4	18.1 18.8 17.8 18.8	11 +8.3	19 00	20.9 21.5 20.5 21.0	16 15	+7.0	2I 00 02	14.8 15.1	06		23 00	20.7	21.3	17 15	+5.6
04 06	17.7 18.4 17.3 18.0	10	04	20.0 20.3	14		04	14.9 15.6	o6  - o6	+5.3	02 04		20.8 19.8	I4 I3	
08	17.4 18.6	II	o6 o8	19.4 19.9	13 13	li	o6 o8	15.1 15.6 15.3 15.9	07		o6 o8	17.7	18.6 18.1	11	
10 12	18.0 19.0 · 18.8 19.7	I2 I3		19.3 20.1 20.0 20.5	13		IO I2	15.9 16.3	07 08		10	17.3	18.0	10	
14 16	19.1 20.0	13	14	20.6 21.0	15	+6.8	14	16.3 16.8 16.8 17.3	08 09 -	+5.2	I2 I4		19.7 16.4	13 08	
18	19.2 20.0 19.3 20.0	13 +8.1	_	20.6 2I.I 20.9 2I.2	15 16	li	16 18	16.8 17.2 15.6 16.2	09 07	ł	14 16 18	16.8	17.0	09	<b>+</b> б.о
20 22	19.0 19.6 18.7 19.6	I3 I2		20.6 21.2 20.3 21.0	15 15		20 22	15.5 16.5	08		20	<b>16.0</b>	15.9 16.0	07 08	
24	18.2 19.5	12	24	20.3 21.1	15		24 26	16.6 17.2 18.8 19.5	09		22 24		15.0 15.3	об 07	
26 28	18.0 19.1 17.8 18.9	12 11		20.4 21.1 20.5 21.3	15			19.3 20.3 20.4 21.2	14 15		26 28	14.9	15.1	06	
<b>30</b> 1	18.0 19.3 18.0 19.0	12 +8.0	30 2	21.0 21.6		<b>+6.6</b>	30	21.0 21.6	16  -	-5.o	30	17.4	15.9 17.8	07 10	<del> </del> 6.0
34	18.0 19.0	12	34	21.9 22.0	17 17		34	21.6 22.5 22.2 23.0	17		32 34	19.1	19.3	13	
34 36 38	18.7 19.6 18.9 19.9	13	30 2 38 2	21.6 21.8 21.4 21.6	17	II	36 38	22.5 23.2 22.3 23.1	18		34 36 38	21.8 2	22.6	17	
40   1	18.8 19.6	13	40 2	21.1 21.3	16		40	22.0 22.8	18		40	<b>20.6</b> 2	23.9	19	
44 1	19.0 19.4 19.4 20.0	13 +8.0	44 2	21.1 21.3 21.1 21.5	16  -	-6.2	42 44	21.9 22.5 21.4 22.1	17 17 +	-4.8	42 44	22.7 2	24.0	19	Lea
46   2	20.0 20.4	14	46 2	21.6 21.8	17		46	21.0 21.8 20.8 21.6	16		46	21.9 2	3-3	18	+5.9
50 2	ю.б 21.1	15	50 2	21.0 22.3	17		50	21.0 21.8	16 16		48 50	18.3 I	7.0	12 08	
52 2 54 2	20.2 21.1 20.4 21.3	15	52   2 54   2	21.8 22.2	17 18		52 54	21.0 21.6 20.1 20.9	16		52	16.0 I	6.6	08	
56 2	0.3 21.1	15	56 2	22.2 23.0	18		56	19.3 20.0	13		54 56	16.4 1 17.8 1	8.6	09 II	
2	0.1 20.7	14	50 2	1.0 22.0	17	- ]]	58	20.5 21.3	15	ŀ	58 24 00		9.7		<b>+6.o</b>

Observers—A. F. and W. J. P., who alternated from 17h 40m to 17h 50m.

Correction to local mean time is — 12s. Torsion head read 258° at beginning and ending. Observer—W. J. P.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Thur	sday, July 27	, 1905			Ma	gnet s	cale inv	erted	Frida	y, July	<b>28,</b> 19	905				Magn	et scale	erect
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	Sca read Left	ings	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp C.
h m	d d	0 ,	0	h m	d	d	° ,	0	h m	d	đ	0 ,		h m	d	d	0 /	
6 00 02 04 06	53.6 52.0 52.6 51.9 53.6 52.6 54.1 53.0	20 06 08 06 05	+0.2	18 00 02 04 06	51.6 51.8 51.7 51.9	51.3 51.6 51.3 51.1	20 09 08 08 08	+5.1	20 00 02 04 06	53.0 53.5 54.3 55.2	55.2 55.6 56.5 59.2	20 25 26 27 30,	+9.4	22 00 02 04 06	30.6 31.3 31.2 30.2	30.8 31.7 31.4 30.2	19 48 50 49 48	+5.8
08 10	54.7 53.5 54.7 53.6	04 04		08 10	51.4 51.1	50.6 50.3	09 10		08 10	55.6 55.0	59.6 57.0	31 28		08	30.9 33.0	31.I 33.0	49 52	
12.1 14 16	54.8 53.8 53.8 52.7 62.8 61.6	20 06 19 52	<b>+6.0</b>	12 14 16	52.6	52.2 53.6 53.7	07 05 05	+5.1	12 14 16	53.8	55.7 54.8	26 25	+9.6	12 14 16	35.0		55 59	+5.3
18 20	52.0 51.0 51.6 50.6	20 08		18	54.4 54.2 54.8	54.0 54.3	04	1	18	52.9 53.1 53.5	54.9 55.0 55.0	25 25 25		18	39	37·3 .8a 42.6	19 59 20 03 07	
22.4 24		08 08		22 24 26	54.0 53.8	53.8 53.8	05 05	 	22 24	53.8	55.0 54.6	25 26 25		22 24	45	.2a .0a	11 30	
26 28	52.6 52.0 53.0 52.0	07 07	16.0	28	, 53	53.1 .6a	06 05	١٠٠	26 28	53.0 53.8	54.2 54.7	24 25	0	26 28	63.2	64.0	36 40	
30 32 34	52.8 52.2 52.8 52.1 52.9 52.2	07 07 07	+6.0	30 32 34	50.8 50.2	53·3 50.6 49·9	05 10 11	+5.0	30 32 34	53.3 53.5 51.8	54·5 54·5 52.6	25 25 22	+9.8	30 32	66.5	64.7 68.2	41 46 29	+5.1
34 36 38	52.3 51.9 52.2 52.0	07 08 08	1	34 36 38	50.0 49.3	50.0 49.1	II I2		34 36 38	49.9	50.5 45.3	19 11		34 36 38	43 37	.9b .3b	20 09 19 59	
40	52.6 52.3 52.8 52.5	07 07	1 = 0	40 42	48.1	47.8 48.0	14		40 42	42.3 41.8	42.4 42.1	07 06		40 42	27.3 30	27.8 .6a	43 48	
42 44 46 48	52.9 52.6 53.9 53.5 54.6 54.5	07 05 04	+5.8	44 46 48	50.0 52.6 53.6	49.8 52.2 53.0	07 06	+4.8	44 46 48	41.7 42.3 43.3	42.3 43.0 44.3	06 07 09	+9.6	44 46 48	31	.8a .8a 29.1	43 48 53 50 46	+5.0
50	56.0 54.9 56.1 55.0	02 02		50 52	51.8	51.I 50.I	09 II		50	44.2 43.1	44.8	10		50 52		.3a 31.9	49 50	
52 54 56 58	55.8 55.0 56.0 55.1 56.2 55.8	02		54 56 58	49.9	49·3 49·3	12 12		52 54 56	40.3 37.2	41.5 37.8	20 04 19 59		54 56 58	31.2 30.5	31.6	49 50 50 48	
7 00 02	56.2 55.8 58.8 57.8 61.3 60.8	20 02 19 58 54	+5.6	19 00	49.8 50.0 49.0	49.3 49.6 48.9	12 11 13	+4.6	58 21 00 02	34.6 34.0 33.2	35.1 34.7 33.9	55 54 53	+8.8	23 00 02	32.0 30.9 32.0	32.6 31.5 32.3	51 49 51	+5.0
<b>0</b> 4 <b>0</b> 6	64.6 62.6 63.0 61.2	50 52		04 06	48.0 48.2	47.8 47.8	I4 I4		<b>0</b> 4 <b>0</b> 6	32.0	32.6	51 51		04 06	34.7 31.5	35.0 32.5	55	
08 10	62.1 60.1 60.1 58.9 60.0 58.6	53 56 56 58		08 10	48.2 47.5	47.9 46.9	14 15 16		08	34.2 33.7	34.5 34.0	54 53		08	30.0 29.0	30.5 29.6	50 48 46 48	
12 14 16	58.8 57.2 58.1 57.0	58 59	+5.5	12 14 16	47.3 47.8 48.5	46.8 47.0 47.9	15 14	+4.6	12 14 16	29 27.8 29.2	.00 27.8 29.2	46 44 46	+8.0	12 14 16	29.0 31.0 32.6	29.8 31.8 33.3	45 50 52	+4.8
18 20	57.6 57.0 57.3 56.5	19 59 20 00		18 20	48.7 49.0	48.0 48.3	14 13		18	30.9	31.I 32.I	49 50		18	34.6 36.8	35.0 37.1	55 58 58	
22 24 26	56.0 55.3 54.3 53.5 52.9 52.2	02 05		22 24 26	49.0		13		22 24	33.8 36.7	37.0	54 19 58		22 24	36.9 37.0	37.6	19 59	
28 30	51.9 51.2 52.3 51.8	07 08 08	+5.2	28 30	50.5 52.3 53.8	49.9 51.7 52.8	08 06	+4.5	26 28 30	37.9 34.9 32.3	38.1 35.3 32.3	20 00 19 55 51	+6.8	26 28 30	39.0 41.7 43.8	39·3 42·0 44·3	20 02 06 09	+4.3
32	52.0 51.3 50.8 50.1	08		32 34 36	52.3 51.6	51.6 50.8	08 09	1415	32 34	33.2	33.6	53 19 56	10.0	32	46.0	46.4 46.6	13	1.4.0
34 36 38	49.6 49.0 48.8 48.0 48.3 47.9	12 13 14		38	50.9	50.0	10		36 38	37.6	35.8 38.1 41.0	20 00 04		34 36 38	45.6 43.8	45.9 44.3	12 09	
40 42 44	49.1 47.6	14 14 14	+5.2	40 42 44	50.9 51.9 54.2	50.3 51.4 53.2	08 05	+4.4	40 42 44	40.5 39.8 38.3 37.6	40.2 38.5 37.9	20 00 19 59	+6.2	40 42 44	40.9 38.1 37.0	41.5 38.7 37.0	20 00 19 58	+4.1
44 46 48	47.8 47.2 48.9 48.1	15 13		44 46 48	55.6 55.6	54·9 55·4	03	177	44 46 48	37.5	.9b	59	, , ,	44 46 48	38.2	38.4 39.6	20 00	4
50 52 54 56 58	49.1 48.5 49.7 49.0 50.8 50.1	13 12		50 52	56.1 56.0	55.2 55.2	02 02		50 52	30 28.5	.5b 28.9	55 48 45		50 52	40 42.2	.6a → 42.2	04 06	
56 58	50.8 50.1 51.3 51.0 50.9 50.3	10 09 10	*	54 56 <b>58</b>	56.0 56.0	55·3 55·2 55·3	02 02 02		54 56 58	29.7 29.5 30.3	29.9 29.9 30.5	47 47 48		54 56 <b>58</b>	43.2 43.1 40.0		08 08 04	
				20 00	56.3 56.6	55.6		+4.2		33.3	30.3	40		24 00	38.0	38. <b>3</b>	00	

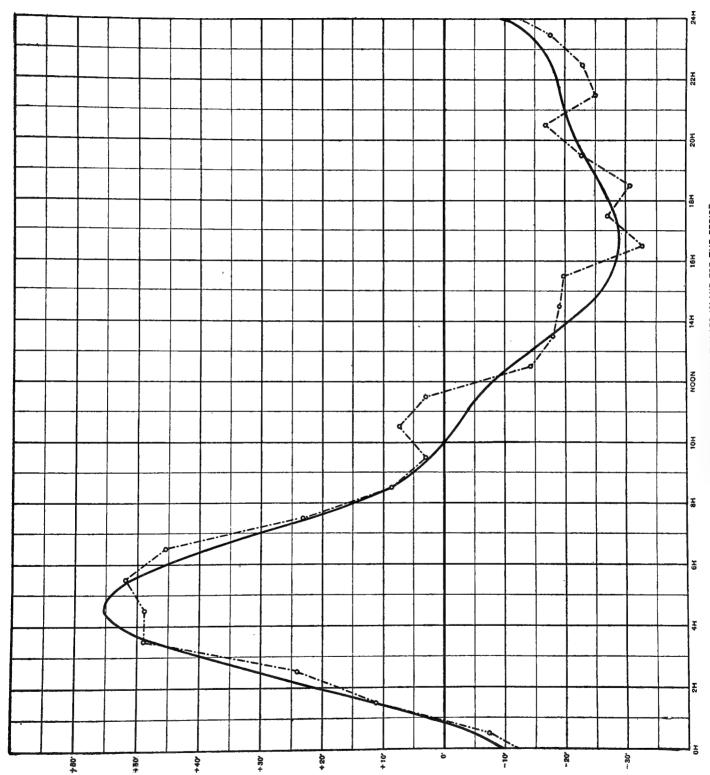
Correction to local mean time is — 10s. Torsion head read 258° at beginning and ending. Observer—W. J. P. Correction to local mean time is — 10s. 90° torsion = 18.'33. Torsion head at 20h 00m read 258° and at 24h 20m read 252°. Observer—W. J. P.

Tabulation of magnetic declinations observed at Alger Island Station-Continued

Sund	ay, July 30, 1	1905			M	agnet s	cale inv	erted	Sund	ay, Jul	y 30, 1	1905				Magne	t scale	erect.
Chr'r time	Scale readings Left Right	East decli- nation	Temp. C.	Chr'r time	read	ale lings Right	East decli- nation	Temp. C.	Chr'r time	Scread	_	East decli- nation	Temp. C.	Chr'r time	read	ale ings Right	East decli- nation	Tem; C.
m	d d	• •	•	h m	d	d	. ,	•	h m	d		0 ,	•	h m	d		. ,	•
00* 02	50.6 49.0 53.0 51.2	20 12	+4.2	2 00 02	47·3 45·4		20 16 20	+5.0	4 00 02	56.7 57.0	58.8 59.0	2I I7 17	+5.4	6 00 02	45·3 49·7	47·3 50. I	20 59 21 04	+5.3
04.5 06	47.6 46.0	12		04 06	43·3 40.6	42.7 40.2	22 26		04 06	54.5 53.8	56.8 55.3	13 12		04 06	47·5 49·3	48.5 50.1	02 04	
08 10	47.3 46.5 49.0 47.5	16		08	36.1 29.6	35.9	33 43		08 10	53.0 48.1	55.0 49.2	11 21 02		08	48.4	49.6 44.8	21 03 20 56	
12 14	48.2 47.2 48.2 47.1	15	+4.5	12 14	26.0 19.7	24.6	50 20 59	+5.0	12 14	41.2 38.8	42.I 40.0	20 52 20 48	+5.6	12 14	45.2	46.0 41.0	58 50	
16 18	48.I 47.3 48.3 47.3	15	14.3	16	19.6	18.2	2I 00 20 53	, 3	14 16 18	47.2 52.3	48.0 54.0	2I OI IO	1500	16		.oa	20 5I 21 0I	+5.
20 22	49.1 48.1 45.8 45.5	13		20 22	26.7	25.0	49		20 22	49.9 47.3	51.8 48.9	06 02		20 22	50.0	51.5	21 06 20 56	
24 26	43.8 43.0	22		24 26	25.9 27.8	26.0	51 48 48		24 26	48.4	49.8	03		24	50.3	45·4 51.2	21 06	
28	43.6 43.5 39.6 39.0	21 28		28	27.3 30.9		43		28	49.5 50.3	50.9 51.5	05 06		24 26 28	40.2 45.0	41.8 45.6	20 51 57 48	
30 32	40.1 40.0 47.6 47.5	27 15	+4.5	30 32	36.6 38.0	36.2	34 31	+5.0	30 32	49.2 49.1	49.9 50.2	04 04	+5.7	30 32	39.2 40.8	40.2 41.2	48 51	+5.2
34 36 38	49.3 47.6 41.2 40.8	14 25		34 36 38	36.2	34·3 32·4	34 37 38		34 36 38	49.0 50.2	49.9 50.8	04 06		34 36 38 40	36.0 34.2	37.2 35.0	44 40	
38 40	44.I 43.I 47.0 46.5	21 16		38 40	34·3 29.0	32.0 26.2	38 46		38 40	55.0 54.0	55.8 54.8	13 12		38 40	31.2 33.8 38.8	32.I 35.4	40 36 40	
42	47.0 46.0 44.9 44.2	17 20		42	23.0 14.6	18.5 9.0	20 57 21 11		42 44	53·3 56.2	54.2 57.4	10 15		42 44	38.8 36.0	40.4 37.2	40 48 44	
44 46 48	47.8a 51.0 50.1	15 10		44 46* 48	35·3 45·5	30.1 39.9	18 02	+5.0	44 46 48	58.5 56.2	59·5 57·6	19 16	+5.5	46 48	37.8 36.0	39·3 37·0	47 43	+5.8
50 52	51.3 50.5 53.9 53.0	10		50 52	46.6 44.1	4I.3 39.1	00		50 52	55.9 55.3	56.8 56.5	15		50	35·3 32·7	36. I 33.5	42 38 39	
54 56 58	52.6 52.0	08 08		54 56 58	36.0	31.0	16 20		54 56 58	56.7 56.2	57.8 57.3	14 16 15		42 44 46 48 50 52 54 56	33.2 35.1	34. I	39	
	52.7 51.9 51.4 50.9	09	1.4.0	58	33·5 37·8	29. I 33. I	14	1	58 5 00.5	55.8	56.9 56.9	15	+5.3	58	37-7	36.5 38.8	42 46	16.6
00 02	50.8 50.0 51.0 50.1	10	+4.9	3 00 02	37.0 38.8	34.8	11	+5.0	02	54.8	55.9	15		7 00	39.1 39.5	39·5 40·0	48 49	<b>+6.</b> c
04 06	50.1 49.6 49.7 49.1	I2 I2		06	40.1 39.5	36.8 36.0	09 10		04 06	55.0 55.2	56.2 56.4	13		04 06	43.5	40.8 44.0	50 55	
08 10	49.5 49.0 50.0 49.5	I2 I2		08	36.3 32.1	33.0 29.3 28.6	15 21		08 10	56.8 53.0	57·3 54·2	16 21 10		08	40.0 32.7	41.0 34.0	50 38	
12 14	50.1 49.9 50.2 50.1	II		12 14	30.8 28.0	28.6 25.9	22 27	+5.0	12 14	41.5 35.0	43·5 36.0	20 53 42	+5.2	12 14 16	33·7 36.2	34·5 36.8	40 44	+6.2
16	50.3 50.0 50.1 49.5	II I2	+5.0	16 18	29.0 31.1	26.3 28.5	26 22		16 18	34.2 39.9	35·4 41.5	41 50		16 18	36.2 37.8	37.0 38.7	44 46	
20	50.3 49.5 52.0 51.5	08		20 22	30.1	27.7 27.0	24 25		20 22	39.2 42.3	40.0 44.5	50 4 <b>8</b> 54		20 22	35·3 33.8	36.0 34.2	42 40	
	54.3 53.1	05 10		24 26	28.8 31.4	26.6 29.3	26 22		24 26	43.8	44.7 43.2	56 20 53		24	32	.3b .2b	37 32	
24 26 28	49.5 48.4	13	1	28	30.9	29.1	22	L	28 30	47.0 44.8	47.9 46.0	21 OI 20 58	+5.1	26 28	27.0 28.7	27.8 29.0	29	+6.6
30 32 34 36 38	48.5 47.7 48.7 47.6	14 14	+5.0	30 32	29.3	27.5 27.2	24 25	+5.0	32	49.5	50.6 48.2	21 05	7.3.1	30 32 34 36 38	34.0 38.8	35.8	31 41	70.0
34 36	52.8 51.1 55.3 54.5	08 04		34 36	30.6 32.0	29.0 30.3	22 20		34 36	47.0 50.7	52.3	01 07		36	38.5 31.6	40.7 39.0	48 47	
38 40	53.5 52.6 53.7 52.8	o6 o6		38 40	33.0 33.5	31.3 32.0	18 18		38 40	52.5 51.0	54.0 52.4	10 07		38 40 42	30.7	32.8 31.5	37 35	
42	51.6 51.0 50.3 49.3	09 12	+5.0 h	42	33.0	31.7 30.0	18 21	+5.0	42 44	51.6 49.0 47.8	52.5 50.0	08 04		42 44	29.4 33.1	30.2 34.8	33 39	
42 44 46 48	48.6 47.6	14		44 46 48	30.4 32.0	29.3 31.0	22 20		44 46 4 <b>8</b>	48.	.7b	02 21 03	+5.1	44 46 48	34.8 33.6	35.8	42 40	+6.9
50	45.0 44.0 45.2 44.1	20		50	33.2	32.2	18		50 52	44. 51.	8a	20 57 21 07		50 52	31.0 28.8	32.0	36	
52 54	45.6 44.3 47.4 46.4	16		52 54*	34.0 52.6	33.3	13		54 56	51.	.8 <i>b</i>	80		50 52 54 56 58	30.0	31.0	32 34 36	
50 52 54 56 58	47.3 46.3 48.7 47.8	16 14		54 <b>*</b> 56 58	52.6 50.8	51.0 49.2	13 16		58	47 · 57 ·	46	16		58 8 00	31.2 36.0	32.3 37.0	30 44 46	
								1						8 00	37.5	39.0	40	+7.

Observers—W. J. P. and A. F., who alternated from 3h 58m to 4h 08m.

Correction to local mean time is — 10s. Torsion head at beginning and ending read 252°. Observer—A. F.



DIURNAL VARIATION IN MAGNETIC DECLINATION AT ALGER ISLAND FOR THE PERIOD
JUNE 26, 1905, TO JULY 31, 1905
(Observed mean values shown by circles joined by broken line; computed values shown by the continuous curve. Increasing ordinates up denote increasing east declination.)

# Tabulation of mean hourly magnetic declinations at Alger Island Five weeks, entire series, June 26 to July 31, 1905 20° plus tabular quantity, east

h h h ch ħ h 0,5 1.5 2.5 6.5 8.5 3.5 5.5 7.5 9.5 10.5 11.5 4.5 Sunday Monday Sunday 2, 9, 16, 23, 30 2, 9, 16, 23, 30 26, 3, 10, 17, 24 , 26.7 34.5 49.0 74.0 53.2 47.8 52.6 49.6 33.8 29.6 19.2 . . . . 14.0 21.3 40.5 125.8 109.7 87.3 63.6 81.5 26.3 30.7 35.7 37.1 11.7 29.3 68.o 43.9 101,4 38. I 28.4 12.3 70.4 42.3 32.6 34.5 15.5 93.5 71.9 97.1 107.8 136.3 138.4 46.1 32.6 69.7 33.5 24.4 15.2 11.9 49.6 79.3 69.0 62.3 51.0 40.8 27.7 25.2 94-3 120.2 Wednesday 28, 5, 12, 19, 26 23.5 56.8 45.5 47.7 . . . . 11.6 38.2 57.2 45.5 160.7 22.3 22.7 22. I 55.4 150.2 51.1 27.5 10.1 03.9 51.8 80.6 74.0 52.2 68.2 54.4 55.6 32.6 26.2 09.0 37.I 60. I 64.8 68.6 46.1 46.5 48.8 26.0 47.0 45.6 40.7 15.2 44.2 53-5 45.2 91.7 59.8 56.5 52.6 38.6 25.9 28.0 26.8 21.8 21.0 39.2 52.2 77.1 80.0 73.8 51.6 35.8 77.0 37.0 31.2 31.3

Tabulation of mean hourly magnetic declinations at Alger Island
Five weeks, entire series, June 26 to July 31, 1905—Continued
20° plus tabular quantity, east

h 12.5	h 13.5	h 14.5	h 15.5	h 16.5	h 17.5	h 18.5	h 19.5	h 20.5	h 21.5	h 22.5	h 23.5
	Tue	esday		Thursday				Friday			
	27, 4, I	1, 18, 25			29, 6, 1	3, 20, 27			30, 7, 12	4, 21, 28	
,	. ,	,	,	,	,	/	,	,	/	,	,
IO. I	06.5	02.0	00.5	17.0	26.6	18.1	26.6	- 14.4	<b>— 29.5</b>	- 31.6	25.6
10.7	08.0	17.2	18.5	- 36.5	- 72.9	<b>—103.6</b>	43.0	33.5	19.5	00.7	10.2
09.5	15.0	15.8	18.1			• • • •		20,2	10.4	05.1	06.9
04.4	- 03.4	— 21.4	- 25.9	10.0	13.0	10.5	12.6	18.4	14.5	11.5	13.8
19.0	- 07.7	17.4	10.6	05.1	05.2	08.6	09.0	17.5	- 07.1	01.9	00.0
					Wedr	ıesday					
					28, 5, I	2, 19, 26					
••••				• • • • •							
22.I	14.6	04.8	17.2	18.4	08.1	00.8	03.5	21.5	13.3	09.1	31.1
22.9	25.3	13.0	08.2	<b>— 28.</b> 1	06.9	15.2	06.5	— 10.5	- 13.1	04.4	03.1
13.0	20.7	22.6	13.0	- oc.2	11.0	17.2	14.9	08.9	08.5	31.4	46.4
14.3	12.9	17.2	17.7	15.8	12.8	17.7	15.8	10.3	12.7	16.5	12.0
14.0	10.2	09.4	08.7	04.1	01.3	— O2.I	05.7	11.7	03.2	05.4	10.9

#### INCLINATION

#### INSTRUMENT, METHODS, AND RESULTS

The same instrument and methods were used in the determinations of magnetic dip at the Alger Island station as at Teplitz Bay (see pages 307 to 309). The observations were made on the central pier in the observatory, the magnetometer at such times being removed from its place. The results obtained are exhibited in the following table:

Date	L. M. T.	Needle 3	Needle 4	Mean	Observer
1905 June 26	h m 14 56	° ′ 82 45.7	° ′ 82 46.4	° / 82 46.0	W. J. P.
27	9 54	46.7	43.6	45.2	Do.
July 10	16 09	40.3	43.6	42.0	Do.
11	9 59	48.2	48.1	48.2	Do.
17	13 56	44.8	46,2	45.5	Do.
18	10 30	47.7	48.5	48.1	Do.
24	14 26	46.4	48.1	47.2	Do.
25	10 16	42.7	45.0	43.8	Do.

Summary of observations of magnetic inclination at Alger Island

From the above the mean value of the magnetic inclination at Alger Island, practically applying to mean of day, is

# $82^{\circ}$ 45.8 N for the epoch 1905.53.

#### HORIZONTAL INTENSITY

#### Instrument, Methods, and Results

The instrument and methods used at the Alger Island station were the same as at Teplitz Bay, already described in detail on pages 313 to 315. The following tabulation summarizes the work at this station; the various column headings are explained on page 313.

Summary of observations of magnetic intensity at Alger Island

Date	Local mean time	и		Centigrade tem- perature		108	T'		
	mean time	r=30 cm.	r = 40 cm.	t	t'	r=30 cm.	r=40 cm.		
1905 June 26	h m 19 38	o / 26 50.3	o / IO 57.0	+ 6.00	· + 7.90	6.21410	6.21562	s 9.83990	
27	7 18	26 58.0	11 04.0	+ 9.55	+10.27	6.21210	6.21098	9.83224	
July 10	19 15	26 40.0	10 57.7	+10.50	+12.37	6.21658	6.21506	9.82239	
11	7 25	27 00.4	11 02.5	+10.25	+12.00	6.21149	6.21193	9.85422	
17	18 36	26 43.4	10 57.9	+ 4.85	+ 6.30	6.21587	6.21507	9.80942	
18	8 32	27 01.6	11 06.4	+ 5.70	+ 5.59	6.21132	6.20951	9.83258	
24	18 39	26 54.9	11 03.0	+ 3.80	+ 4.74	6.21302	6.21177	9.79750	
25	8 32	27 10.1	11 15.6	+ 4.00	+ 3.52	6.20925	6.20368	9.83218	

Summary of observations of magnetic intensity at Alger Island-Continued

Date	Effect 90° torsion v		$\sqrt{\frac{\log}{H(H+X)}}$	Н	log m <sub>t</sub>	log <i>m</i> <sub>20</sub>	Observer
1905 June 26	19.52	1.46503	8.83995	γ 7172	2.64078	2.63896	W. J. P.
27	19.75	1.46561	8.83857	7151	2.64283	2.64147	Do.
July 10	18.10	1.46674	8.83128	7194	2.64115	2.63991	Do.
11	18.62	1.46387	8.83779	7138	2.64187	2.64060	Do.
17	17.63	1.46781	8.84164	7199	2.64180	2.63983	Do.
18	17.12	1.46568	8.83805	7142	2.64340	2.64154	Do.
24	16.92	1.46887	8.84063	7183	2.64391	2.64180	Do.
25	19.30	1.46549	8.83598	7110	2.64541	2.64333	Do.

From these results the mean value of the magnetic horizontal intensity at Alger Island, practically applying to mean of day, is

7161  $\gamma$  for the epoch 1905.53.

#### SUMMARY OF MAGNETIC ELEMENTS AT ALGER ISLAND

The following shows in one view the mean results obtained by the expedition at the Alger Island station, all the values applying practically to mean of day:

Epoch	East declination	Northerly inclination	Horizontal intensity	Vertical intensity	Total intensity
1905.53	° ′	。 <i>'</i>	γ	γ	γ
	20 28	82 46	7161	56 <b>3</b> 95	56 <b>8</b> 48

Latitude of station is 81 21.5 N. Longitude of station is 56 05.5 E.

0 /

#### MISCELLANEOUS OBSERVATIONS

#### A-TROMSOE, NORWAY

The magnetic station was located on the east side of Tromsoe Sound about fifty feet from the shore line and on the edge of the cultivated field opposite the city of Tromsoe. Very little time was available for work at this station; as a result only declinations could be observed with magnetometer No. IIII. The mark used was a house appearing over point of Tromsoe Island in true azimuth 195° 40.'9 west of south and distant about five miles.

Latitude N	Longitude east of Greenwich	Date	Local mean time	Observed declination
° / 68 39	° / 18 50	1903 June 27	h m 13 59 14 56	° ' 7 01.7 W 7 00.3

Observers-R. W. Porter, W. J. Peters, and R. R. Tafel.

#### B-ARCHANGEL, RUSSIA

The magnetic station was located on the south point of a low, flat, sandy island covered with small willows in the Dwina River about west-southwest of the old prison in Solomba. The taller and middle spire of the Archangel cathedral is in true azimuth from the magnetic station 344° 20.′3 west of south. Complete observations were made with magnetometer No. IIII and dip circle No. 5676. In the following summary of the results at this station all instrumental corrections have been made, but no corrections for diurnal variations are applied.

Latitude N	Longitude east of Greenwich	Date	Local mean time	Observed declination	Local mean time	Observed dip*	Observed horizontal intensity	Observed $\log m_{20}$
° / 64 34	° / 40 40	1903 July 3	h m	。 / 7 22.7 民	h m 15 50	° / 73 54.1 N	γ	
			18 26	7 28.8	15 48	74 00.6		
		July 4	12 18	7 27.3	15 18		14528	2,64048
			13 32	7 25.0	17 42		14538	2.64054
			18 31	7 25.8				

Observers-W. J. Peters and R. W. Porter.

#### C-BARENTS SEA

Observations were made on the floating ice in Barents Sea. For declination observations a C. L. Berger and Sons' alt-azimuth instrument with compass needle attached in tube under telescope (see figure 2 of astronomic notes) was used. The methods and results obtained are exhibited in the following summary:

<sup>\*</sup> Needles Nos. 3 and 4 respectively.

Date	Mark	Mean watch time	Mean altitude vertical circle R and L	Mean horizontal circle reading	Point- ings	Resulting declination	
1903		h m s	0 /	0 /		۰	,
August I		16 54 55		0 00.0	I	]	
	O Sun Needle	17 10 21	9 52.1	293 34.0	2	17	42.8 E
				359 24.0	I	)	
	Ol Sun	17 34 21	8 53.6	298 31.5	4	17	60.2
	Needle	17 53 01		357 42.1	5	1	
	$\frac{ O }{ Sun }$	18 21 56	7 04.8	307 39.4	4	17	51.8
	Needle	18 34 55		356 08.1	5	j	
			Weighted mean	value		17	48.0 I

The error of the watch on Greenwich mean time was  $+4^m$  57°. A midnight altitude of the sun on the same date, together with the above time observations, gives:

Latitude 77° 06' N. Longitude 52° 15.'1 E of Greenwich.

The magnetic observing tent was set up about six hundred feet distant from the alt-azimuth instrument in a direction S 10° W, and dip observations were made with dip circle No. 5676 in the usual manner, giving the following results:

Date	Local mean	Observed inclination						
Date	time	Needle No. 3	Needle No. 4	Mean				
1903 August 1	h m 22 31	° / 81 01.7 N	° / 81 05.2 N	o / 81 03.4 N				

Observers-W. J. Peters and R. W. Porter.

#### D-DETERMINATIONS ON PLANE TABLE TRAVERSE

In the course of the plane table traverse work from Teplitz Bay to Cape Flora Mr. R. W. Porter made the following declination observations:

Place	Latitude N	Longitude east of Greenwich	Local mean Azimuth determined how		No. needle pointings	Mean observed declination
Cape Norway	o / 81 12	o / 55 34	1904 <i>h</i> April 18, 12.4	Theodolite No. II	ī	o / 25 52 E
Hooker Island station XXI	80 21	53 12	June 19, 12.1	{ Theodolite and azimuth } obs. on station XX}	7	19 41.7
Rubini Rock	<b>8</b> 0 19	52 48	June 23, 22.0	{ Theodolite and azimuth obs. on station A}	5	17 29.7
Cape Flora	79 57	49 58	July 9-19	{ Plane table needle sta- tions B, D, E, L, K, M. }	6	14 57

# SECTION B

# NOTES AND SKETCHES OF THE AURORA BOREALIS

BY
ANTHONY FIALA

Commander of the Expedition

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Auroræ Obs	served at Ca	ımp A	bruz	zi, <b>T</b> epl	litz B	ay, Rud	olph Isla	nd				366
Auroræ Obs	served at El	nwoo	od, Ca	ape Flo	ra, N	orthbro	ok Island					367
					PI	LATES						
I	December	23, 1	1903,	3:30 I	Р. М.	11	January	23,	1904,	9:50	Р. М.	
2	December	23, 1	1903,	4:10 E	. м <b>.</b>	12	January	23,	1904,	9:56	Р. М.	
3	December	23, 1	1903,	4:40 I	Р. М.	13	January	23,	1904,	10:03	Р. М.	
4	December	23, 1	1903,	5:15 F	. м.	14	January	23,	1904,	10:06	Р. М.	
5	December	23, 1	1903,	II:40 P	. м.	15	January	23,	1904,	10:09	Р. М.	
6	December	23, 1	1903,	12:00 F	. м.	16	January	23,	1904,	10:13	Р. М.	
7	January	2, 1	1904,	8;00 F	. м.	17	January	23,	1904,	10;20	Р. М.	
8	January	2, 1	1904,	8:30 F	Р. М.	18	January	23,	1904,	10:24	Р. М.	
9	January	2, I	904,	9:00 P	. м.	19	January	23,	1904,	10:28	Р. М.	
10	January	23, I	904,	9:36 P	. м.							

# AURORAL OBSERVATIONS

#### REMARKS REGARDING SKETCHES

On a previous Polar expedition I had made many attempts to photograph the aurora, but without material success. By long exposure some small effects of the light with that of the stars on the sensitive plates could be obtained. These, however, were without value as a matter of record, as this phenomenon is so rapid in its variations that to depict the same correctly instantaneous photographs are necessary. This is not possible, owing to the insufficient light. Accordingly recourse had to be taken to sketching.

In connection with the work at the magnetic observatory a number of sketches of the aurora were made, using for the purpose a board with compass attached for orientation. The cardinal points indicated on the plates are accordingly magnetic. The drawings were made upon black sheets of paper, upon each of which a circle representing the horizon was previously drawn in chalk. The sheets were so placed together and pinned at the corners that they could be torn off as the sketches were completed. A pin at the center represented the zenith point. Having had some experience in rapid sketching, it did not take long to place on the paper rough chalk sketches of the beautiful auroral light, using the board as a plane table, and drawing in the circle of the chalk horizon the display that was taking place in the heavens overhead.

Owing to numerous other duties and on account of the generally prevalent bad weather opportunities for sketching were few. The attendant physical difficulties for work of this kind in the open air, under the flickering light of a small lantern, without shelter of any kind, and with a temperature of from 30° to 50° Fahrenheit below zero, may be readily imagined. In spite of these difficulties some very interesting and, it is believed, representative sketches were secured. The results of this work are shown by plates numbers 1 to 19, the titles of which give the dates and times of the phenomena so recorded.

In order to make as complete a record as possible of this phenomenon during the time the Expedition was at work, the various auroral notes have been gathered together from the meteorologic records for both the Teplitz Bay and Cape Flora stations. The notes at Camp Abruzzi between October, 1903, and March, 1904, as also for those at Cape Flora, were collected by Sergeant Francis Long, Weather Observer. Those between October, 1904, and February, 1905, were made by different members of the party, chiefly by Messrs. Peters, Porter, and Dr. Seitz. The times given are local mean, civil reckoning through twenty-four hours for the respective stations. The first figure entered indicates the day of the month, those following the hour and minute, thus: 21:18:10 means the 21st day of the month at local mean time 18h 10m or 6h 10m P. M. Directions given in these notes are all true, and not magnetic as in the cases of the sketches. The references are to the beginning and ending of the display, the extent of the same and the altitude, thus: 21:18:10 to 20:20, K to W, about 60°, means that an aurora was observed on the 21st day of the particular month under which the note comes between 18h 10m and 20h 20m, and that it extended from east to west at an altitude of about 60°. In connection with these notes reference should also be made to such references of auroræ as are contained in the notes accompanying the declination results at Teplitz Bay on pages 32 to 40, as these are not included in the following.

AURORÆ OBSERVED AT CAMP ABRUZZI, TEPLITZ BAY, RUDOLPH ISLAND

October, 1903—3: 21: 00 to 22: 00, E to W, about 35° to 40°.—21: 19: 10 to 20: 40, E to W, about 25° to 40°.—30: 21: 20 to 22: 10, SE to NW.—31: 21: 45 to 22: 10 from 60° to 90°.

November, 1903—1: 05: 00 to 6: 15; 1: 16: 15 to 18: 00.—4: 16: 45 to 17: 30, E to W.—10: 17: 15 to 19: 10, E to W.—11: 16: 00 to 22: 00, E to W, about 35°.—12: 15: 00 to 16: 25, E to W.—14: 20: 50 to 21: 10, W to E.—15: 22: 30 to 23: 10.—17: 14: 30 to 22: 10, E to W.—18: 04: 00 to 10: 30; 18: 14: 00 to 21: 10.—19: 10: 30 to 10: 50, E to W and N; 19: 14: 30 to 16: 00; 19: 19: 35 to 21: 10.—22: 21: 10 to 21: 50.—23: 22: 45 to 24: 00.—25: 16: 30 to 17: 10.—26: 20: 00 to 21: 00 from 30° to 45°.

December, 1903—2: 07: 00 to 8: 15.—8: 15: 55 to 17: 00, E to W; 8: 19: 10 to 21: 10.—12: 20: 00 to 21: 30.—13: 07: 45 to 18: 30.—14: 07: 45 to 9: 10; 14: 19: 30 to 24: 00.—17: 19: 30 to 24: 00.—18: 11: 45 to 12: 30; 18: 19: 00 to 23: 10.—19: 23: 00 to 24: 00.—20: 19: 30 to 20: 15.—21: 07: 30 to 9: 00; 21: 19: 50 to 21: 50.—22: 19: 50 to 20: 30.—23: 07: 45 to 8: 15; 23: 11: 45 to 17: 00; 23: 22: 40 to 24: 00.—24: 20: 00 to 22: 30.—28: 22: 30 to 24: 00.

January, 1904—2: 19: 45 to 21; 00.—4: 10: 10 to 10: 20; 4: 12: 00 to 12: 40.—5: 07: 55 to 8: 25.—7: 22: 30 to 23: 40.—9: 23: 15 to 24: 00.—10: 07: 00 to 8: 40; 10: 14: 10 to 16: 25.—11: 07: 30 to 8: 10; 11: 15: 25 to 17: 00; 11: 22: 10 to 23: 25.—12: 15: 50 to 18: 10; 12: 19: 20 to 22: 25.—13: 11: 00 to 11: 25; 13: 12: 00 to 12: 40; 13: 14: 40 to 24: 00.—14: 11: 50 to 12: 40; 14: 22: 30 to 23: 10.—15: 12: 00 to 16: 00; 15: 16: 30 to 20: 10.—20: 12: 10 to 12: 35 in S.—23: 22: 00 to 24: 00.—24: 00: 00 to 00: 30.—25: 19: 30 to 21: 10.—28: 19: 15 to 19: 25; 28: 19: 40 to 19: 55.—30: 19: 45 to 20: 10; 30: 20: 30 to 20: 50.—31: 20: 15 to 20: 45.

February, 1904—1: 15: 10 to 15: 40, E to W.—5: 18: 10 to 18: 40; 5: 22: 20 to 23: 00.—6: 21: 00 to 24: 00.—7: 07: 45 to 8: 15; 7: 19: 15 to 24: 00.—8: 15: 30 to 17: 00; 8: 18: 00 to 24: 00.—9: 19: 55 to 20: 25.—11: 19: 00 to 24: 00.—12: 21: 30 to 24: 00.—16: 19: 15 to 21: 00; 16: 22: 00 to 24: 00.—18: 19: 00 to 21: 10; 18: 22: 00 to 24: 00.—23: 20: 25 to 20: 35; 23: 22: 15 to 23: 00.

March, 1904-2:19:40 to 20:20.-16:21:35 to 22:00.

October, 1904—19, aurora in E.—28, fine aurora.

November, 1904—2, light aurora 3 days.—4, aurora SE to SW.—7, light aurora in SE and W.—9, light aurora, ESE to SW.—10, light aurora, E to W.—12, very light aurora, E to SW.—13, light aurora, SE to middle SW.—16, light aurora, SSW to SSE.—17, brilliant aurora, E to W, entire southern hemisphere.—26, light aurora.—27, aurora SE to W.—29, light aurora, 18:30, WNW to E, and 20:00, ESE to WSW.

December, 1904—1, aurora NE to WNW; wide auroral bands over S (SSE to SSW).—2, slight auroral display in flashes in N (NNE to NNW).—3, straight auroral band over horizon, SSE to SSW, with light dashes in E, during P.M.—4, auroral dashes from 12:45, NW to NE; magnificent aurora from 20:15 to 21:30; bands SE to WSW changed to waving streams of all colors moving W to E, fading to a faint ribbon across sky, followed by flashes.—5, A.M., light aurora, W to NNE, plain band; noon, wide, uncolored arch across zenith, E to W; P.M., clear aurora NE to E.—6, A.M., aurora, E to W, center zenith.—12, P.M., light band, E to W.—14, 12:00, light dashes in W and "auroral smoke" N to NNE; 18:00, dashes in W and band, W to E; 20:00, band over S horizon, remained steady until 21:15, then lengthened to W and worked N, expanding, waving, coloring and fading, until at 21:35 reached zenith;

corona then formed, remaining overhead until 21:46, when corona disappeared and bands gradually faded; this display was brightest and sharpest in E, less distinct and not so highly colored in W; gave a very distinct light.—15, A. M., fine NE to SW arch overhead, faded slowly; 5:00, in S from E to W, arch and corona at zenith; 8:45, rays all direct from zenith; 12:00 to 15:00, uncolored arch zenith ESE to WNW, clearer in W; "auroral smoke" in N and NNE.—16, A. M., rays N to W from zenith; 12:00, light rays in NW (N to W), "auroral smoke," ENE to NNE.—18, A. M., light band NNE to NE; 20:20 to 21:30, band across sky, E to SSW.—20:20:00, band from W to zenith; ribbon, NE to zenith.—26:12:00, aurora in W to zenith.—28:17:00, flames in E, bands across SW; 22:00, aurora in S.—29:08:00, wide band, SE to SW, 45° either side zenith.—30, heavy, dull aurora over N half of sky, convoluted.

January, 1905—1: 12: 30, dashes in W, swinging around until W to E, then changing to brilliant sashes and streamers, working down to W to SE at 14: 30; 1: 20: 00, light band, SE to SW.—2: 20: 00, band in W.—3: 08: 00, very light dashes in NE about 45° toward zenith; 3: 20: 00, large aurora, E to W, widely spread in E into several moving bands.—4: 13: 00 to 20: 00, band, E to W; 4: 20: 00, clear auroral display, corona at zenith with waving streamers, E and W.—8: 12: 00, light aurora in N.—11: 10: 00, rays, zenith to W and E; 11: 12: 00, light band, SE to SW; 11: 17: 30, band, SE to SSW; 11: 20: 00, band, SE to SW.—12: 22: 00, display in S, convoluted band, ribbon E to W.—13: 08: 00, dashes and band, E to W; 13: 20: 00, glow E to SE; 13: 21: 25, convoluted bands in S zenith.—14: 12: 00, dashes in NNE; 14: 22: 30, bright rays and bands over S half sky, E to W and zenith.—17: 10: 00, dashes in W; 17: 11: 00, band NE to W; 17: 13: 00, band E to W.—25: 20: 00, auroral curtain, E to WSW to SE to SSW to S, movement E.—26: 20: 00, band, E to SW, 20° altitude.—27: 18: 00, band, E to SW, 45° altitude; 27: 19: 30, aurora in E, convoluted, 248° to 315° azimuth, streamers to 68° azimuth and 50° altitude.

February, 1905—1: 20: 00, light band, E to W.—3: 20: 00, dashes in W and E with bands connecting.—6: 20: 00, light band, straight E to SW, altitude 15°.—7: 20: 00, band, E to SSW; convoluted aurora, E to S of zenith.—8: 20: 00, band, E to W; 8: 22: 00, convoluted aurora, E to SW; 8: 23: 25, glow and "smoke" in SSE.—9: 08: 00, dashes in NE; 9: 17: 00, bands, E to W, converging in W; 9: 18: 00, moving bands, E to SW.—14: 19: 45, fine display swinging over entire sky; 14: 20: 00, orange-colored corona, large cloud-like aurora covering zenith about 15° on each side, trail to SW tinged with colors.—21: 20: 00, band, E to SW, light glow and bands in E.

AURORÆ OBSERVED AT ELMWOOD, CAPE FLORA, NORTHBROOK ISLAND

October, 1904—18: 19: 15 to 21:00.—19: 19: 00 to 20: 00.—23: 21: 00 to 21: 40.—24: 19: 00, ending during night.—28: 19: 00 to 19: 55.

November, 1904—2: 18: 10, ending during night.—4: 17: 15, ending during night.—5: 16: 50 to 6: 05: 00, E to W.—6: 19: 40 to 22: 30.—7: 18: 30 to 20: 15.—9: 17: 50 to 22: 30.—12: 20: 50 to 21: 30.—18: 12: 40 to 16: 30, E to W.—29: 15: 00 to 22: 10.—30: 07: 00 to 21: 25.

December, 1904—1:16:00 to 21:00, E to W.—5:11:20 to 17:00.—6:15:10 to 16:55, E to W.—9:13:30 to 13:50, E to W.—14:01:00, ending during night; 14:19:00 to 19:55, E to W.—15:08:00 to 8:30.—18:22:10 to 23:00, E to W.—26:14:00 to 19:30, E to W.—28:15:10 to 21:30, E to W.—29:19:20 to 20:00, E to W, 50°.

January, 1905—1: 13: 10 to 16: 20, E to W, about 65°—2: 19: 00 to 20: 10, E to W, about 55°.—4: 08: 50 to 9: 30, about 35°; 4: 18: 10 to 23: 50, about 45°.—5: 19: 30 to 22: 00, E to W, about 10°.—7: 19: 30 to 21: 00, E to W, about 30°.—8, from 3: 00 and during early morning, E to W, about 60°.—11: 09: 00 to 10: 00, E to W, about 60°; 11: 14: 30 to 19: 00, E to W, about 55°.—12: 16: 00 to 16: 30, about 55°.—13: 19: 30 to 21: 00, about 45°.—14: 12: 30 continued to 19: 50, between 30° and 90°; 14: 20: 35 to 21: 50.—17: 14: 00 to 15: 30.—22: 15: 10 to 16: 00.—25: 16: 10 to 24: 00, between 30° and 48°.—26: 14: 00 to 22: 30, 90°.—27: 14: 00 to 15: 15, between 60° and 70°.

February, 1905—1: 17: 00 to 17: 40, E to W, about 70°.—3: 18: 00 to 22: 00, about 70°.—4: 21: 20 to 22: 30.—5: 17: 00 to 19: 30, E to W, about 60° to 70°.—6: 18: 30 to 19: 20, E to W, about 80°.—9: 21: 00 to 24: 00.—10: 17: 00 to 23: 00, about 65° to 70°.—12: 18: 00 to 24: 00, E to W, between 60° and 80°.—14: 18: 30 to 20: 40.—19: 18: 40 to 20: 50.—21: 19: 00 to 21: 30, between 50° and 55°.—28: 19: 10 to 21: 00.

March, 1905—1: 19: 40 to 21: 30.



DECEMBER 23, 1903, 15 HR. 30 MIN-



DECEMBER 23, 1903, 16 HR - 10 MIN-



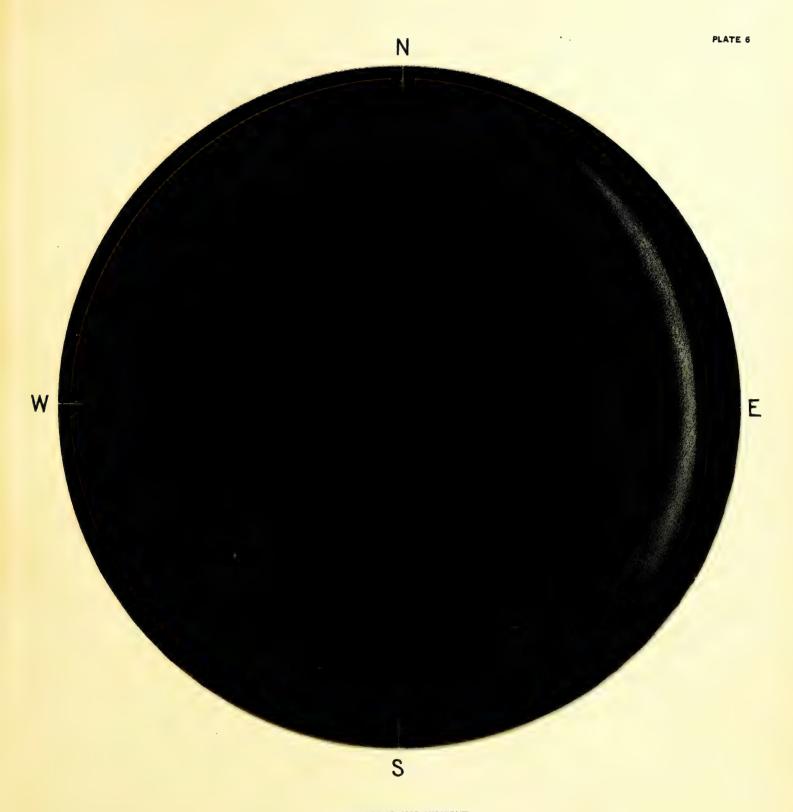
DECEMBER 23, 1903, 16 HR. 40 MIN-



DECEMBER 23, 1903, 17 HR. 16 MIN.



DECEMBER 23, 1903, 23 HR- 40 MIN-



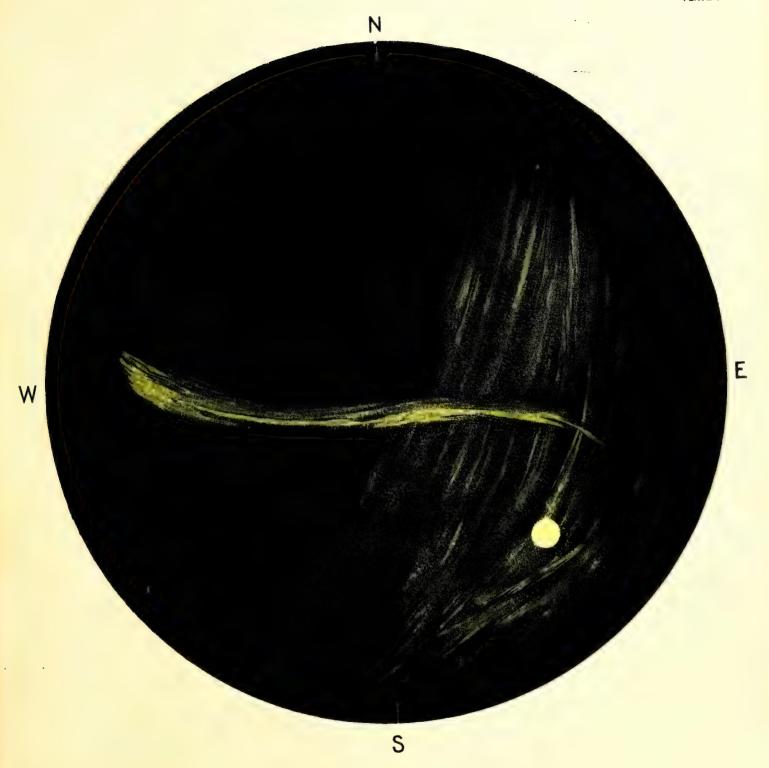
DECEMBER 23, 1903, MIDNIGHT LAST APPEARANCE



JANUARY 2, 1904, 20 HR.



JANUARY 2, 1904, 20 HR. 30 MIN.



JANUARY 2, 1904, 21 HR.



JANUARY 23, 1904, 21 HR. 36 MIN-FIRST APPEARANCE



JANUARY 23, 1904, 21 HR. 50 MIN-



JANUARY 23, 1904, 21 HR. 56 MIN-



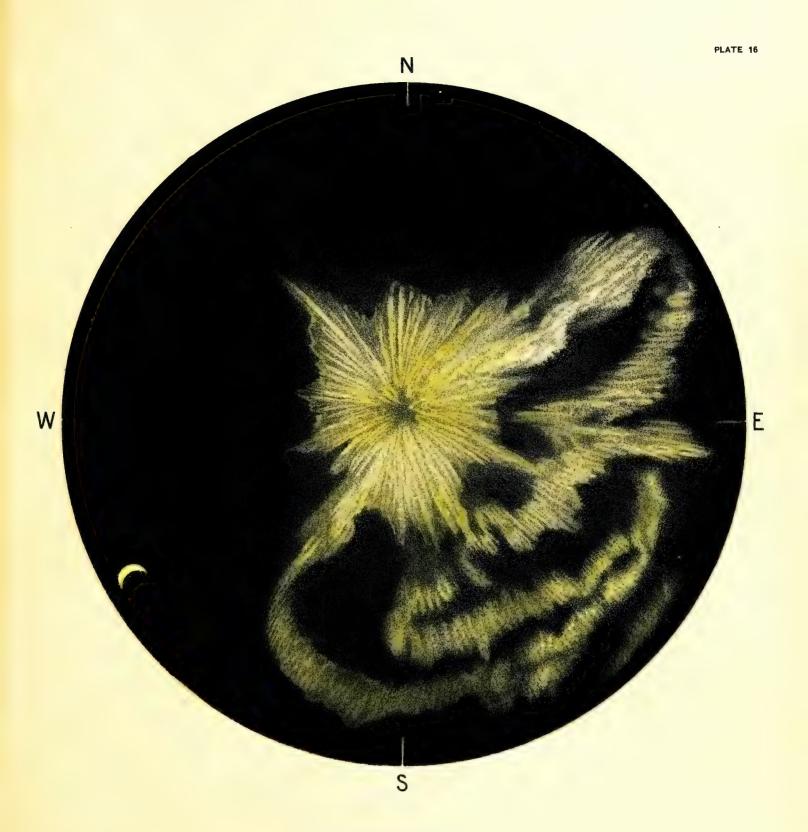
JANUARY 23, 1904, 22 HR. 3 MIN.



JANUARY 23, 1904, 22 HR. 6 MIN-



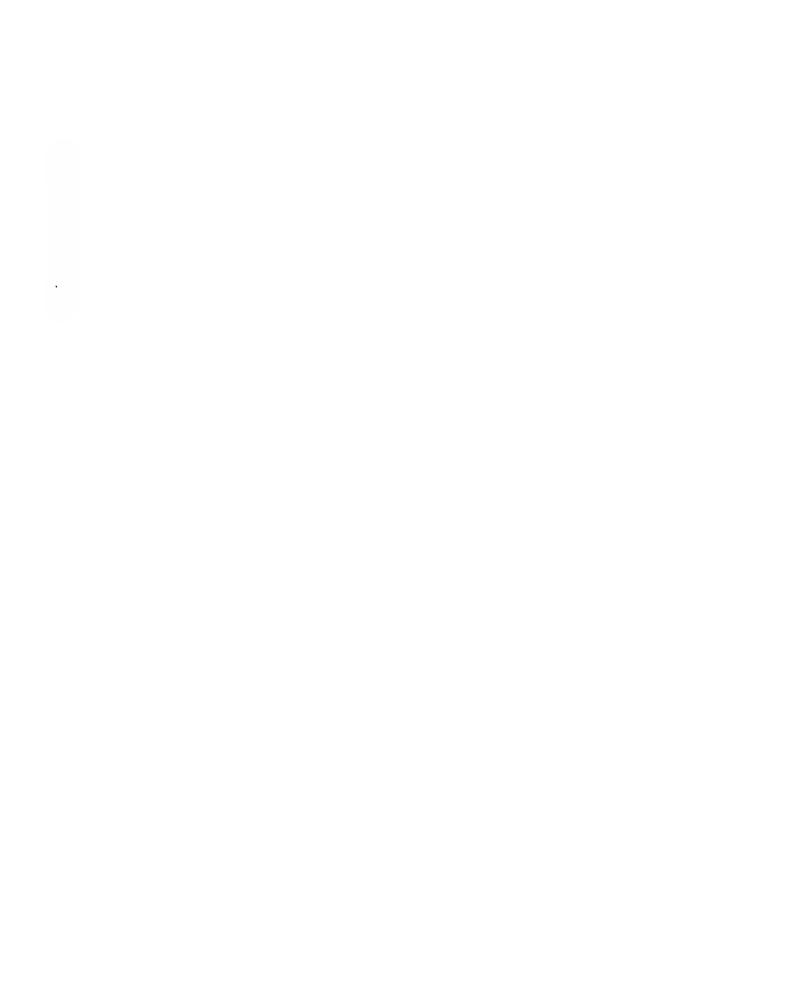
JANUARY 23, 1904, 22 HR. 9 MIN.

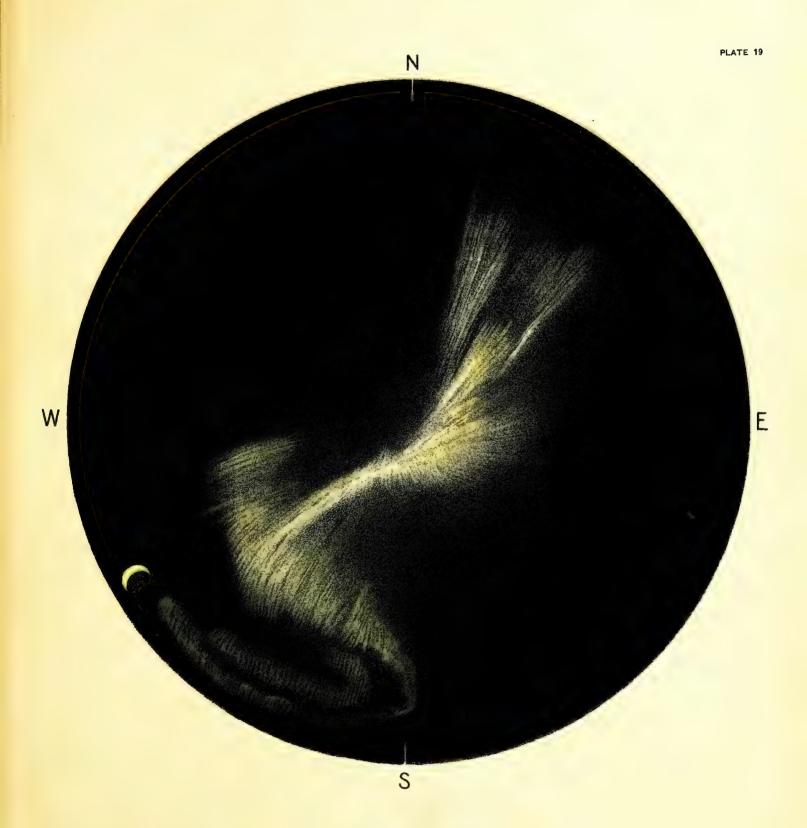


JANUARY 28, 1904, 22 HR- 18 MIN-



JANUARY 23, 1904, 22 HR. 20 MIN.





JANUARY 23, 1904, 22 HR. 28 MIN.

## SECTION C

# METEOROLOGICAL OBSERVATIONS

AND

# COMPILATIONS

ВУ

W. J. PETERS

In Charge of Scientific Work of the Expedition

AND

J. A. FLEMING

Department Terrestrial Magnetism, Carnegie Institution of Washington

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# METEOROLOGICAL OBSERVATIONS

# Instruments, Stations, and Methods

The instrumental outfit for the meteorological work consisted of two barometers; two barographs; several aneroids; a nephoscope; maximum, minimum, wet, and dry bulb thermometers; thermograph; two anemometers, and a single register for recording wind velocities. The greater part of this outfit was loaned the Expedition through the courtesy of Professor Willis Moore, of the United States Weather Bureau, and General A. W. Greeley, of the United States Signal Corps.

Observations were made at Teplitz Bay, Rudolph Island, by Mr. Francis Long, a trained observer from the United States Weather Bureau, from September, 1903,\* to the end of April, 1904, when one division of the Expedition left for Cape Flora, Northbrook Island. At this time the instruments were distributed between the two parties; those left at Teplitz Bay were afterward read or kept in working order by Mr. Spencer W. Stewart and consisted of a mercurial barometer; maximum, minimum, dry, and wet bulb thermometers, and an anemometer with register for wind velocities. Owing to the many duties devolving upon the small party left at Teplitz Bay, Mr. Stewart could not make observations very regularly or systematically; in consequence after April 30, 1904, only the results for wind movement have been incorporated in this report. Mr. Long personally superintended the transportation of the instruments destined for Cape Flora. These included an aneroid barometer; maximum, minimum, dry, and wet bulb thermometers, and an anemometer without register.

On arrival at Teplitz Bay, in the fall of 1903, an instrument shelter was set up close to the original site used by the Italian Expedition for their meteorological observations (see figure 1 of "Section A" for a map of the Teplitz Bay station showing respective locations). This shelter was constructed in conformity with the regulations of the United States Weather Bureau, being about 1.5 meter above the surface of the ground, and is very clearly shown in figure 1. In it were installed, exposed, wet bulb, maximum and minimum thermometers, and the thermograph. These were all placed at the same level, namely, about 10½ meters above the sea. The anemometer was fixed on the astronomical observatory (see figure 1 as also figure 1 of "Section E"), some 100 meters from the shelter-house and about 22 meters above sea level. The mercurial barometer and aneroid, together with the barograph, were installed in the living-house at 9.35 meters above sea level.

Records were made daily at 8 A. M., noon, and 8 P. M., local mean time. The true direction of the wind was determined by eye observations of the weather vane. Observations with the nephoscope were found to be impracticable: during the winter the darkness prohibited any attempt; during the period of daylight the clouds were of such a character and were so low, really not more than fogs, that they presented no well-defined points on which to observe.

At Cape Flora ("Elmwood" of the Jackson-Harmsworth Expedition of 1894 to 1897) a valuable series of observations extending from May 21, 1904, to July 30, 1905, was made by Mr. Long. An improvised instrument shelter, following as closely as possible the regulations of the United States Weather Bureau, was constructed from boxes in which were installed

<sup>\*</sup>Prior to this time and during the voyage of the S. Y. "America" north from Tromso, Mr. Long made regularly daily observations. These covering, as they do, a region already frequently reported upon meteorologically, are not recorded in this volume.

maximum, minimum, dry, and wet bulb thermometers. An aneroid barometer was installed in the living-house 15.1 meters above sea level. Wind motions were determined by dial readings of the anemometer at 8 A. M., noon, and 8 P. M., local mean time, the true directions being estimated by eye from weather vane. Temperature and other observations were also made at the same times. The elevation of the top of the anemometer staff, which was mounted on the storehouse, was about 20 meters above sea level. It may be noted that the wind is locally affected at Cape Flora by the proximity of bluffs 350 meters high. This is especially noticeable when open water affords another means of determining the wind direction.

#### RECORDS

The various meteorological instruments were compared with standard instruments before embarking and corrections determined. Unfortunately the difficulties and exigencies of the retreat in 1905 were such as to necessitate abandoning practically the entire meteorological outfit. Accordingly only the initial comparisons were available for the correction of the records. This is to be regretted, especially so in the case of the barometers.

The corrected records at the Teplitz Bay and Cape Flora stations are given on pages 375 to 471; the final summaries and reductions resulting will be found on pages 472 to 482. In view of the fact that all of the records, in conformity with the standards used by the United States Weather Bureau, have been made in the Fahrenheit scale for temperature and in the English measure for wind and atmospheric pressure, these systems have been retained in the various compilations. As will be noted, no records are given for relative humidity, vapor pressure, or dew point; this is owing to the fact that with the insufficient apparatus available no reliable results could be obtained under the condition of prevailing low temperatures.

In addition to the work at these two principal stations numerous irregular observations were made as time permitted at various points. Of these only the records made on the sledge trips are here recorded as being of interest in indicating the conditions of travel in the Archipelago (see pages 483 to 487).

Observations preceding 12 hours of September 22, 1903, were made on board the "America" in Teplitz Bay; after that time they were made at the final station, Camp Abruzzi, Teplitz Bay. The times of observation preceding 12 hours of September 28 are 45 M. M. T. east; on and after that time local mean time is used; aneroid barometer used through September 21; mercurial barometer after that date.

The following abbreviations are used in the tabulations:

T-trace of precipitation S<sup>m</sup>-moist snow R—rain S¹-sleet Sd-dry snow H-hail C-calm DN-during night Cloud classifications: A-Cu-alto-cumulus A-S-alto-stratus Ci—cirrus Ci-Cu-cirro-cumulus Ci-S-cirro-stratus Cu-cumulus Cu-N-cumulo-nimbus Fr-Cu-fracto-cumulus Fr-N-fracto-nimbus Fr-S-fracto-stratus N-nimbus S-stratus S-Cu-strato-cumulus H-haze \*—fog \*\*-dense fog

Cloud characters appearing in parentheses, thus (Ci-Cu), refer to upper clouds, all other references being to lower clouds. A totally clouded sky is counted as amount of cloudiness ten, a perfectly clear sky being counted zero. Otherwise the tabulations are explained sufficiently by the column headings.



 $\label{eq:continuity} \textbf{InSTRUMENT SHELTER AT TEPLITZ BAY} \\ \textbf{(A-instrument shelter; B-remains meteorological station of Italian Expedition; C-astronomical observatory)} \\$ 

# METEOROLOGICAL OBSERVATIONS

# TABULATION OF DAILY METEOROLOGICAL OBSERVATIONS

RECORDED AT

TEPLITZ BAY STATION, RUDOLPH ISLAND
FRANZ JOSEF ARCHIPELAGO
SEPTEMBER 1, 1903, TO APRIL 30, 1904

NORTH LATITUDE: 81° 47.'5

LONGITUDE EAST OF GREENWICH: 57° 56'

Tabulation of daily meteorological observations at Teplitz Bay during the month of September, 1903

Observer: Francis Long

	11					ver: FRAN	CIS LONG						
	Rent	JCED BARON			Reading of	F :		Self-reg	istering :	Fahrenhe	eir Theri	MOMETERS	
Date	ICE,DC		AETER		HEIT THER		81	Ħ	12H	20	ЭН	Mean of	Damina
	8н	12H	20H	8н	8н 12н		Max.	Max. Min.		Max.	Min.	extremes	Range
	In.	In.	In.		0	•	0		0	a	۰		o
I	30.05	•••	29.96	+ 33.0		+ 33.0	+ 35.9	+ 25.8	• • • • •	+ 35.5	+ 26.0	+ 30.8	10.1
2	29.74	29.70	29.48	+ 29.0	+ 31.0	+ 30.0	+ 35.0	+ 24.4	+ 31.5	+ 31.5	+ 28.4	+ 29.7	10.6
3	29.54	29.55	29.65	+ 33.4	+ 34.0	+ 33.5	+ 33.4	+ 30.0	+ 34.0	+ 35.0	+ 33.4	+ 32.5	5.0
4	29.74	29.84	29.88	+ 29.5	+ 29.0	+ 22.0	+ 35.0	+ 28.9	+ 29.0	+ 29.5	+ 22.0	+ 28.5	13.0
5	29.92	29.94	29.98	+ 31.0	+ 32.5	+ 32.0	+ 31.0	+ 22.0	+ 33.0	+ 34.8	+ 29.0	+ 28.4	12.8
6	29.88	29.90	29.78	+ 33.0	+ 29.0	+ 29.0	+ 33.2	+ 25.8	+ 34.0	+ 34.0	+ 28.5	+ 29.9	8.2
7	29.58	29.56	29.56	+ 30.0	+ 30.0	+ 27.0	+ 30.0	+ 28.8	+ 32.4	+ 32.4	+ 26.0	+ 29.2	6.4
8	29.56	29.62	29.66	+ 28.1	+ 27.0	+ 28.0	+ 30.2	+ 27.0	+ 28.2	+ 29.0	+ 25.0	+ 27.6	5.2
9	29.63	29.65	29.67	+ 26.0	+ 26.0	+ 23.0	+ 29.0	+ 26.0	+ 26.0	+ 26.0	+ 22.9	+ 26.0	6.1
10	<b>29.7</b> 6	29.80	29.86	+ 19.0	+ 21.0	+ 22.0	+ 24.0	+ 18.8	+ 22.3	+ 24.8	+ 19.0	+ 21.8	6.0
11	29.94	29.95	29.86	+ 23.5	+ 18.0	+ 21.0	+ 25.0	+ 17.8	+ 24.5	+ 25.0	+ 18.0	+ 21.4	7.2
12	29.50	29.52	29.55	+ 3r.5	+ 30.5	+ 28.0	+ 31.5	+ 21.0	+ 32.0	+ 32.0	+ 26.0	+ 26.5	11.0
13	29.46	29.53	29.68	+ 30.0	+ 21.0	+ 21.0	+ 31.3	+ 27.7	+ 30.0	+ 30.0	+ 17.2	+ 24.2	14.1
14	29.78	29.82	29.86	+ 21.0	+ 21.0	+ 19.0	+ 24.2	+ 21.0	+ 22.4	+ 22.4	+ 19.0	+ 21.6	5.2
15	29.90	<b>29.</b> 94	29.95	+ 19.0	+ 21.0	+ 14.0	+ 21.0	+ 14.8	+ 21.0	+ 21.0	+ 13.0	+ 17.0	8.0
. 16	29.86	29.86	29.75	+ 22.1	+ 27.0	+ 27.0	+ 22.1	+ 12.9	+ 27.0	+ 27.0	+ 22.1	+ 20.0	14.1
17	29.62	29.68	29.96	+ 33.5	+ 31.2	+ 13.8	+ 33.5	+ 27.0	+ 33.5	+ 33.5	+ 13.8	+ 23.6	19.7
18	29.92	29.84	29.96	+ 15.0	+ 16.0	+ 15.0	+ 15.0	+ 8.0	+ 16.3	+ 18.2	+ 12.7	+ 13.1	10.2
19	30.04	30.01	29.72	+ 10.0	+ 15.0	+ 19.0	+ 15.0	+ 4.6	+ 15.0	+ 19.0	+ 10.0	+ 11.8	14.4
20	29.38	29.40	29.42	+ 20.0	+ 19.5	+ 20.0	+ 20.0	+ 19.0	+ 20.5	+ 21.0	+ 17.2	+ 19.1	3.8
21	29.50	29.68	29.84	+ 14.0	+ 13.0	+ 3.0	+ 20.5	+ 14.0	+ 14.0	+ 14.0	+ 3.0	+ 11.8	17.5
22	29.93	29.90	29.85	+ 4.5	+ 4.4	+ 3.0	+ 4.5	+ 1.0	+ 5.0	+ 7.5	+ 2.0	+ 4.2	6.5
23	29.75	29.73	29.65	+ 6.5	+ 6.5	+ 12.0	+ 6.5	0.0	+ 7.0	+ 12.5	+ 6.5	+ 6.2	12.5
24	29.59	29.63	29.70	0.0	+ 8.0	+ 8.0	+ 12.5	_ 2.3	+ 8.0	+ 8.o	- 4.0	+ 4.2	16.5
25	29.70	29.69	29.71	+ 3.0	+ 7.4	+ 8.0	+ 7.0	0.0	+ 7.5	+ 8.0	+ 3.0	+ 4.0	8.0
26	29.75	29.74	29.66	+ 11.5	+ 11.0	+ 22.0	+ 11.5	+ 7.2	+ 11.5	+ 22.0	+ 11.1	+ 14.6	14.8
27	29.69	29.66	29.67	+ 25.0	+ 22.5	+ 26.0	+ 25.0	+ 22.0	+ 25.0	+ 26.0	+ 22.0	+ 24.0	4.0
28	29.81	29.83	29.86	+ 21.0	+ 22.5	+ 19.0	+ 28.2	+ 21.0	+ 23.1	+ 23.1	+ 18.0	+ 23.1	10.2
29	29.94	29.99	30.04	+ 20.0	+ 19.0	+ 20.5	+ 23.8	+ 14.9	+ 20.0	+ 20.5	+ 18.0	+ 19.4	8.9
30	30.06	30.08	30.04	+ 7.6	+ 11.4	+ 17.0	+ 20.0	+ 7.6	+ 11.5	+ 17.0	+ 6.0	+ 13.0	14.0
Sum	892.52	863.04	893.21	+630.7	+605.4	+615.8	+714.8	+516.7	+645.2	+720.2	+514.8	+607.2	304.0
Mean	29.75	29.76	29.77	+ 21.0	+ 20.2	+ 20.5	+ 23.8	+ 17.2	+ 22.3	+ 24.0	+ 17.2	+ 20.2	10.1
		<u> </u>	Ji			I	l	,	l		1	1	1

# SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

Tabulation of daily meteorological observations at Teplitz Bay during the month of September, 1903—Continued

Observer: Francis Long

								Wind											
				Precie	PITATION	ī						[				1 /	<u>.</u>		
DATE	II	1	1	ī	1		1			Вн	1			2H	<del></del>	-		HOS	,
	8н	12Н	20Н	Total	Character	Beginning	Ending	Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction
	In.	In.	In.	In.	1	$h \cdot m$	h m		Мi.	Mi.		:	Mi,	Mi.	i		Mi.	Mi	
1	.00		.00	00		•• : • •		s	20	24	SE	· · · ·		• • • • • • • • • • • • • • • • • • • •		s	15	30	S
2	.00	.00	.03	.03	Sª	12 10	16 10	SE	26	30	SE	SE	. 38	48	SE	SE	50	6о	SE
3	.00	.00	.04	.04	R	14 45	19 75	SE	23	59	SE	SE	30	30	SE	SE	15	30	SE
4	.09	.00	- ,00	.09	S <sup>m</sup>	0 15	5 00	S	5	15	S	sw	12	20	sw	E	7	Į5	E
5	:00	.00	.00	.00	•••	· · · · ·	•••	.SE	12	23	SE	SE	15	19	SE	SE	15	22	SE
6	.00	T	.04	.04	S <sup>m</sup>	II 00		SE	6	30	SE	SE	15	20	SE	SE	21	<b>3</b> 6	SE
7	.03	.01	.02	.06	S <sup>m</sup> .	8 45	3 00	SE	15	30	SE	S	4	15	SE	sw	5	15	sw
8	.03	.00	•00	.03	S <sup>m</sup>		6 00	NW	15	15	NW	sw	15	20	sw	sw	12	18	sw
9	.02	.00	.00	.02	Sª	0 00	7 05	sw	5	15	sw	sw	5	6	sw	sw	5	12	sw
10	.00	.00	.00	.00				W	2	17	W	SE	10	10	SE	SE	. 6	8	SE
11	.00	.00	.00	.00	S <sup>d</sup>	21 10		E	7	10	E	E	20	20	E	Ð	20	23	E
12	•39	T	T	•39	S <sup>d</sup>	•• ••	8 30	E	15	30	E	SE	30	30	SE	SE	12	30	SE
13	T	T	T	T	Sm	7 30	8 40	sw	3	18	sw	W	6	20	sw	. <b>W</b>	19	24	W
14	.00	.00	.00	.00	• • • •			W	12	20	W	W	13	15	W	N !	5	20	N
' I5	.00	.00	.00	.00	~~		••••	E	2	4	SE	E	2	3	E	E	8	8	E
16	.00	T	T	T	S <sup>m</sup>	9 40		S	14	20	S	S	12	24	S	S	5	24	S
17	15	.08	.08	.31	S <sup>m</sup>		13 15	S	2	15	S	S	I	2	S	N.	8	24	N _
	.00	.09 T	.09	.18	S <sup>d</sup>	8 40	12 40	SW	5	12	sw	SE	6	6	SE	E	6	20	E
19	.01		.01 T	.02 T	S <sup>d</sup>	6 30	9 00	SE	4	16	E	SW	5	6	8W	s	15	15	s
20 21	.00	.00	.01		S <sup>d</sup>	19 20	70 20	NE	10	20	SE NE	SE NE	20	<b>2</b> 6	SE	E	. 5	25 36	E
22	.00	.00	.00	.00	Sq.	22 00	13 30	NW	30	33		NW	5	36	NE	NE	24		NE
23	T	т	.06	.06	S <sup>a</sup>	22 00	18 00	E	5 2	31	NW E	NE	8	8		N SW	2. 8	15	N
24	.04	T.	т	.04	S <sup>m</sup>	2 00	8 30	SE	3	15	SE	E	8	8	E	E	8	17	SW E
25	.00	.00	.03	.03	S <sup>a</sup>	13 00	23 00	E	12	26	E	N	26	29	N	NE	15	24 30	NE
26	T	$\mathbf{T}$	Т	т	Sª	7 05	9 10	NE	12	26	NE	N	8	25	N.	E	28	48	E
27	.00	.00	.00	.00	S <sup>d</sup>	2I 00		E	24	10	TEN .	E	. 38	42	E	E	40	45 °	E
28	.07	.00	.00	.07	$S^d$		I IO	E	10	42	* E	SE	5	12	SE	SE	3	7	SE
29	T	${f T}$	.01	.01	S <sup>m</sup>	6 00	18 40	SE	5	8	SE	NE	2	5	E	S	12:	12	S
30	00	.00	.38	.38	$S^d$	13 40		E	24	26	E	SE	10	26	E	Æ:	44	46	. IE
Sum	.91	.26	.80	1.97	•••				330	672			369	531	<del></del>		438	739	
Mean			•••					E	11.0	22.4	SE	SE	12.7	18.3	SE		14.6	24.6	E
				ļ			.	J		· ·		,		-3.0				-4.0	

Tabulation of daily meteorological observations at Teplitz Bay during the month of September, 1903—Continued Observer: Francis Long

					Crot	JDS					
		8н			12H			20Н		<b>-</b> (0	
Date	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
1	0		• • • •	0			Few	(Cu)	s	ı	
2	{ 2 6	(A-Cu) S-Cu	SE }	10	S-Cu	SE	10	S-Cu	SE	, 10	
3	§ 6	S-Cu S	SE SE	6	S-Cu S	SE }	10	N	SE	10	
4	10	s	S	\ \{\} 2	(Ci–Cu) S–Cu	SW }	ı	s	1E	6	Fog 10:00 to 11:15.
	10	S	SE	\ 5 \ 5	(A-S)	SE SE	10	s	SE	9	
5 6	10	s	SE	10	S-Cu N*	SE }	10	N*	SE	IO	Light fog from 10:50.
7	10	s	SE	10	N*	S	10	s*	sw	10	Light fog to 2:00.
8	10	S	NW	10	S	sw	10	S	s	IO	
9	10	S	sw	10	s	sw	10	s	sw	10	
10	10	s	sw	10	S	sw	10	S	SE	10	
11	10	s	E	{ 3 I 2	(Ci-S) (Ci-Cu) S	$\left[ \begin{array}{c} \mathbf{W} \\ \mathbf{W} \\ \mathbf{W} \end{array} \right]$	10	S	Е	9	
12	10	N	E	5	S-Cu	SE	10	s	SE	7	
13	10	N*	sw	10	S	!Wi	IO	s	w	IO	Light fog 5:00 to 9:00.
14	10	S	w	10	S	w	2	s	NE	7	
15	2	s	N	{ 2 2 1	(Ci–S) (Ci–Cu) S–Cu	NE   NE   NE	r	s	Е	4	
16	{ 4 { 4	(A–Cu) S–Cu	s }	10	S*	s	10	N*	s	10	
17	10	N*	s	10	N*	s	2	s	N	.8	
18	10	S	sw	10	N*	SE	2	S	NE	7	Light fog 6:30 to 10:30; dense fog 12:40 to
19	10	N*	E	10	S	sw	10	N*	s	10	14:00.
20	2	S	SE	3	S	SE	10	N	E	5	
21	10	N*	NE	10	N*	NE	2	S	NE	6	
22	Few	S	NW	o		•••	10	S	N	I	Changed to Camp Abruzzi after 12:00.
23	10	S	E	10	N	NE	10	N	sw	10	
24	10	N	SE	7	S	E	10	S	E	9	
25	{ 5 5	(A-S) }	E	10	s	N	10	N	NE	10	
26	10	N	NE	10	S	N	10	S	E	10	
27	10	S	Е	10	s	E	{ 3 6	S-Cu S	E	10	
28	{ 4 { 5	(A-S) S	SE SE	6 4	(A-S) S	SE }	3 3 3	(A-S) (A-Cu) S	SE SE	9	
29	10	N	SE	10	N	NE	ю	S	s	ю	
30	I	S-Cu	E	10	s	SE	10	N	E	8	
Sum	250	•••	•••	249	•••		238	•••	•••	246	
Mean	8.3	•••	•••	8.3	•••	• •	7.9			8.2	
	_ <del></del>		<del></del>	<del></del>						·	

# SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

Tabulation of daily meteorological observations at Teplitz Bay during the month of October, 1903

Observer: Francis Long

	REDUCED BAROMETER				READING O	E)		SELF-REG	ISTERING	FAHRENH	eit Theri	Mometers	
DATE	Redi	uced Baron	METER		HEIT THER		8:	H	12H	20	DН	Mean	D.
	8н	12H	20H	8н	12H	20Н	Max.	Min.	Max.	Max.	Min.	of extremes	Range
	In.	In.	In.	0	0	۰	•	۰			0	۰	o
ı	29.951	30.015	30.139	+ 14.0	+ 17.5	+ 22.0	+ 19.2	+ 13.0	+ 19.4	+ 22.4	+ 13.3	+ 17.7	9.4
2	30.183	30.195	30.218	+ 22.1	+ 20.0	+ 16.2	+ 22.6	+ 20.2	+ 22.1	+ 22.1	+ 16.0	+ 19.3	6.6
3	30.237	30.259	30.278	+ 14.2	+ 17.0	+ 7.6	+ 16.0	+ 11.2	+ 17.4	+ 19.6	+ 4.8	+ 12.2	14.8
4	30.248	30.241	30.246	+ 10.0	+ 12.0	+ 3.0	+ 10.0	+ 3.0	+ 16.0	+ 15.9	+ 3.0	+ 9.5	13.0
5	30.185	30.194	30.175	+ 8.9	+ 4.0	+ 9.5	+ 13.1	+ 1.0	+ 10.0	+ 10.0	+ 1.8	+ 7.0	12.1
6	30.046	29.972	29.832	+ 16.2	+ 15.8	+ 17.2	+ 16.2	+ 9.5	+ 16.2	+ 17.2	+ 15.8	+ 13.4	7.7
7	29.782	29.792	29.797	+ 8.5	+ 7.8	- 5.0	+ 17.5	+ 8.5	+ 8.5	+ 8.5	- 5.0	+ 6.2	22.5
8	29.833	29.870	29.930	<b>— 12.6</b>	<b>— 13.0</b>	- 14.0	- 5.0	17.0	- 9.0	- 9.0	- 15.0	- 11.0	12.0
9	<b>29.99</b> 6	30.011	30.044	— 8.o	<b>— 14.0</b>	4.0	- 7.9	— 16.o	— 8.o	- 3.6	15.6	- g.8	12.4
10	30.019	29.957	29.831	+ 3.0	+ 1.0	- 4.2	+ 3.5	- 4.0	+ 3.0	+ 3.0	- 4.2	- 0.4	7.7
11	29.560	29.466	29.328	+ 4.0	+ 3.4	+ 3.5	+ 4.0	7.0	+ 4.0	+ 4.0	+ 2.6	- 1.5	11.0
12	29.663	29.751	29.867	0.0	+ 2.2	+ 5.0	+ 3.5	— 1.0	+ 2.2	+ 5.0	0.0	+ 2.0	6.0
13	29.877	29.901	29.950	+ 12.0	+ 9.0	+ 11.0	+ 12.0	+ 5.0	+ 12.9	+ 13.1	+ 6.0	+ 9.0	8.1
14	29.994	29.993	29.949	+ 9.0	+ 10.0	+ 16.o	+ 12.6	+ 4.0	+ 10.0	+ 16.0	+ 7.0	+ 10.0	12.0
15	<b>29.83</b> 6	29.832	29.848	+ 12.8	+ 10.4	+ 4.0	+ 17.2	+ 12.4	+ 12.8	+ 13.0	+ 4.0	+ 10.6	13.2
16	29.909	29.910	29.871	4.0	<b> 1.6</b>	+ 4.0	+ 4.0	—· 5.0	1.6	+ 4.4	- 4.9	- 0.3	9.4
17	29.752	29.776	29.819	+ 6.0	+ 6.o	+ 2.4	+ 9.2	0.0	+ 6.1	+ 9.5	+ 2.2	+ 4.8	9.5
18	29.811	29.816	29.837	7.5	— 10.8	- 10.5	+ 5.0	- 11.5	- 7.0	- 7.0	I2.0	- 3.5	17.0
19	29.784	29.776	29.758	- 16.4	IO.O	- 9.0	10.5	<b>— 16.8</b>	- 10.0	9.0	— 18.0	— I3.5	9.0
20	29.733	29.671	29.610	2.0	<b>— 1.0</b>	— o.4	- 2.0	- 9.0	- 1.0	- 0.4	·- 4.0	- 4.7	8.6
21	29.723	29.768	29.877	— I.O	- 0.4	+ 2.0	0.0	<b>— 10.6</b> .	+ 2.8	+ 3.0	- 3.0	- 3.8	13.6
22	29.987	29.997	29.927	+ 1.0	+ 4.0	+ 5.0	+ 4.2	,— 1.9 ·	+ 4.0	+ 7.6	- o.4	+ 2.8	9.5
23	29.819	29.749	29.791	+ 10.0	+ 8.o	+ 7.6	+ 10.0	+ 3.6	+ 10.0	+ 10.0	+ 6.4	+ 6.8	6.4
24	29.713	29.676	29.659	+ 8.2	+ 10.8	+ 7.4	+ 10.1	+ 4.3	+ 11.0	+ 11.0	+ 5.0	+ 7.6	6.7
25	29.731	29.743	29.696	+ 8.0	+ 6.0	+ 12.0	+ 13.1	+ 4.2	+ 8.0	+ 12.0	+ 4.0	+ 8.6	9.1
26	29.589	29.526	29.445	+ 15.6	+ 16.4	+ 13.0	+ 17.2	+ 11.6	+ 17.0	+ 19.6	+ 12.0	+ 15.6	8.0
27	29.350	29.337	29.303	+ 6.4	+ 6.4	+ 11.6	+ 16.0	+ 6.3	+ 8.0	+ 11.8	+ 5.0	+ 10.5	11.0
28	29.309	29.328	29.359	+ 16. <b>0</b>	+ 16.0	+ 14.4	+ 16.0	+ 10.8	+ 16.1	+ 17.0	+ 14.2	+ 13.9	6.2
29	29.423	29.428	29.469	+ 8.8	+ 8.o	+ 6.5	+ 16.0	+ 7.9	+ 9.0	+ 8.8	+ 6.5	+ 11.2	9.5
30	29.533	29.557	29.620	+ 2.0	+ 2.2	+ 4.0	+ 6.5	0.0	+ 2.6	+ 4.0	+ 1.5	+ 3.2	6.5
31	29.595	29.534	29.541	+ 5.0	+ °8.0	+ 0.4	+ 5.0	— 3.o ·	+ 8.1	+ 8.0	0.0	+ 2.6	·· II.I
Sum	924.171	924.041	924.01.4	+170.2	+171.1	+158.2	+274.3	+ 33.7	+220.6	+267.5	+ 49.0	+156.0	319.6
Mean	29.812	29.808	29.807	+ 5.5	+ 5.5	+ 5.1	+ 8.8	+ 1.1	+ 7.1	+ 8.6	+ 1.6	+ 5.0	10.3

Tabulation of daily meteorological observations at Teplitz Bay during the month of October, 1903—Continued Observer: Francis Long

		·			···	=			Wind											
				Precip:	ITATION	•				8	н			12	2H		20Н			
Date	8н	12H	20H	Total	Character	Beginning	Ending		Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction
ı	In. .46	In.	In04	In. •54	Sª	h m	h n	i il	E	Mi. 48	Mi. 60	E	E	Mi.	Mi. 48	Ð	SE	Mi.	Mi. 48	E
2	.00	.00	.00	.00	•••			.	SE	15	25	SE	E	24	29	E	w	10	35	SE
3	.00	.00	.00	.00	•••				SE	28	30	SE	SE	24	36	SE	N	4	36	SE
4	.00	.00	.00	.00	•••			$\cdot \ $	SE	8	8	SE	w	4	17	SE	NE	2	20	SE
5	.00	.00	.00	.00				.	E	15	24	SE	s	5	20	SE	S	9	20	sw
6	.00	.00	.01	.01	S <sup>d</sup>	18 00	21 0	o	ssw	30	34	sw	sw	36	38	sw	sw	36	40	sw
7	.05	T	.01	.06	S <sup>d</sup>	I 30	15 0	o	W	5	36	sw	NW	5	8	w	N	13	15	N
8	.00	.00	.00	.00	•••			.	sw	1	24	sw	NE	2	2	NE	E	3	15	E
9	.00	.00	.00	.00					E	2	5	E	E	2	2	E	$\mathbf{c}$	0	0	$\mathbf{C}$
10	.00	.00	.00	.00				.	E	12	12	E	E	26	34	E	E	6	35	E
11	.14	.09	.18	.41	Sª	5 00	21 5	5	NE	12	26	NE	E	15	26	NE	NE	18	24	NE
12	Т	.00	.00	T	•••			$\cdot \ $	NW	24	34	NW	W	24	30	W	SE	3	34	NW
13	.00	.00	.00	.00	•••			. 11	SE	14	24	SE	E	8	15	E	N	8	18	SE
14	.00	.00	.07	.07	Sq Sq	13 45 15 55	15 3 21 I	o} o}	S	2	24	S	SE	I	5	SSE	S	8	8	8
15	T	.00	.00	Т				.	NE	3	75	NE	N	2	6	N	N	2	10	N
16	.00	.00	.00	.00	•••		.	$\cdot \parallel$	sw	1	5	sw	E	3	5	E	E	4	4	E
17	.00	.00	.00	.00	•••			•	SE	24	30	SE	E:	36	42	Е	N	. 15	42	E
18	.00	.00	.00	.00	•••	•••		$\cdot \ $	W	3	24	N	NW	2	3	NW	E	17	26	E
19	.00	.00	.00	.00			1	•	NE	15	16	NE	N	5	15	NE	NE	8	39	NE
20	.10	T	T	. IO	S <sup>d</sup>	4 00	8 2	o	NE	20	27	NE	E	30	30	E	NE	<u>i</u> 8	30	NE
21	.00	.00	.00	.00	•••			.	SE	ī	24	NE	SE	6	15	E	NE	5	15	NE
22	.00	.00	.00	.00	\ S <sup>a</sup>	2 00		o}  	E	30	37	E	E	5	24	E	E	26	30	E
23	?	'		,	Sa Sa	21 10		.} o}		60	62	E	E	62	72	E	SE	26	72	E
24	?	.00	.01	.01	} S <sup>d</sup>	13 30	20 I	0)	SE	24	48	SE W	SE	14	36	SE E	SE NE	3	30 12	SE NE
25	T	.00	.02	.02	S <sup>d</sup>	14 00	20 3	o	W	12	14			5						
26	T	.00	?	?	S <sup>a</sup>	13 30	10 0		SE NE	12	17	SE	ESE	30	34	ESE	ESE	40	42	ESE
27	?	.00	Т	?	(Sm	19 40		.5	W	30	60	NE E	E	26	36	NE W	E SE	5	36	NE
28	.07	T	T	.07	S <sup>m</sup>		9 1		SE	12	21	SE	i .	3	10	SSE	SE	5	15	SE
29	.00	.00	.00	.00	•••	•••			e E	5	15	SE	SSE	2		S	S	4	8	SE
30	.00	.00	.00	.00	•••			∦	sw	2		sw	W	29	4	w	NE	5	36	S W
31	.00	.00		00			<u> </u>	$-\ $		14	14				35		ļ	<del> </del>	<del> </del>	
Sum	.82	.13	•34	1.29	•••			•		484	803			461	697		•••	332	801	• • • • • • • • • • • • • • • • • • • •
Mean		•••	•••	•••	•••	••	•• •	•	SE	15.6	25.9	SE	E	14.9	22.5	E	NE	10.7	25.8	E

# SCIENTIFIC RESULTS OF ZIEGLER POLAR EXPEDITION

Tabulation of daily meteorological observations at Teplitz Bay during the month of October, 1903—Continued
Observer: Francis Long

		8н			I2H			20H		5. S	
Date	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
i	10	N	E	{ 2 4 2	(A-Cu) S-Cu S	S } E }	10	s	SE	ю	
2	10	S	SE	10	s	E	10	s	w	10	
3	{ 5 4	(A-S) S	SE SE	5	(Ci–S) S	E { SE }	Few	s	N	5	Dense fog from 22:40.
: 4	\ 2 \ 2	(Ci-Cu)	E SE	Few 2	(A-S) S	E {	Few	S-Cu	E	I	Dense fog to 5:00.
5	Few	S	E	0		- <i>,</i>	10	s	S	3	
6	} 5	(A-S) S	sw. (	10	s	sw	10	N	sw	10	
7	10	N,	W	10	N	NW	r	8 .3	N	9	
8	{ 4	(A-Cu)	E	0	•••		Few	s	E	2	
· 9	10	S S*	E	Few	s*	E	. 10	s*		4	Light fog 5:30 to 10:40; 18:30 to 21:00.
, 10	10	S	E	0	•••	•••	0			2	Sun dog 11:10 to 11:40.
Iİ	ĮO.	N*	NE	10	N*	E	IO	N*	NE	10	Light fog 5:00 to 21:55.
. 12	10	S	NW	10	S	W	10	S	NE	10	
13	10	S	SE	I	(Ci-Cu)	E	} 4 1	(Ci-Cu) S	N } N }	4	
., 14	{ 4 5	S–Cu S	S }	10	s	SE	10	N	s	IO	
r i	§ 4	(A-S) S	NE (	10	s	N	{ 4 I	(Ci-S)	N } N }	. 10	
16	10	s*	'sw	10	S*	E	10	S*	E	10	Light fog 7:00 to 20:30.
17	{ 5 5	S–Cu S	SE }	10	s	E	3	S-Cu	N '	10	
18	Few	s	sw	{Few	(A-S)	E }	10	s	E	7	
, 19	7	s	E	3	(Ci-S)	E )	: 10	s	NE	·8	:
20	10	N	NE	} 5 10	S	E }	10	s	NE	9	Drifting snow 8:20 to 11:30.
., 21	:8	s	E	{ 4	(Ci-Cu)	E }	Few	s	NE	6	1
22	0	•••		8	s s	E } E	2	s	E	6	High east winds and drifting snow all night;
23	10	s	E	10	S	E	8	s	SE	10	ship parted hawsers about 22:00. High winds and drifting snow.
24	10	S	SE	10	s	SE	10	N	SE	10	3
25	8	S-Cu	w	$   \left\{ \begin{array}{c}     2 \\     4 \\     2   \end{array} \right. $	(A-Cu) S-Cu S	$\left[ egin{array}{c} \mathbf{W} \\ \mathbf{W} \\ \mathbf{W} \end{array} \right]$	íо	N	NE	10	
26	10.	S	SE	10	S.	ESE	10	s	ESE	10	Drifting snow from 13:30.
. 27	10	s	NE	10	s	E	10	N	E	10	Drifting snow to 10:00.
28	10	N	W	10	S	E	10	S	SE	10	
29	10	S	SE E	10	S	SSE	10	S S	SE S	10	
30 31	10	S S	SW	10	S S	S W	IO IO	S	NE	. 10	
				·			224			246	
Sum Mean	258 8.3			232 7·5		•••	7.2		•••	7.9	
THE CELL	1	l		1						•	

Tabulation of daily ineteorological observations at Teplitz Bay during the month of November, 1903

Observer: Francis Long

					0036	rver: FRAI	icra Hone						
-	D	TD			READING O	F.		Self-rec	GISTERING	Fahrenh	eit Ther	MOMETERS	
DATE	KED	UCEL BARO	METER	FAHREN	неи Тнек		8.	н	12H	20	ОН	Mean of	Range
	8н	12H	20H	8н	12H	20Н	Max.	Min.	Max.	Max.	Min.	extremes	Range
	In.	In.	. In.		0	•	•	. •	0		۰	0	0
I	29.571	29.548	29.485	— ī5.o	<b>— 16.6</b>	<b>—</b> 17.8	+ 0.4	- 18.0	- 15.0	15.0	- 17.8	- 8.8	18.4
2	29.416	29.409	29.465	<b>— 17.2</b>	- 14.0	- 17.9	- I7.I	<u> </u>	- 14.0	- 14.0	- 18.2	— 17.o	6 <b>.o</b>
3	29.528	29.530	29.514	- 22.0	21.0	— I9.0	<b>— 17.9</b>	28.2	- 21.0	18.5	— 22.0	23.0	10.3
4	29.471	No obs.	29.542	- 23.2	•••	- 24.4	- 17.0	26.4	• • •	22.0	- 27.8	- 22.4	ю.8
5	29.561	29.554	29.591	21.0	18.1	— 19.4	- 21.0	- 27.2	- 18.0	- 15.4	21.0	- 21.3	8.11
6	29.566	29.570	29.524	<b>— 14.0</b>	16.5	20.0	- 10.9	- 19.8	— <b>14.</b> 0	14.0	- 21.6	— 16.2	10.7
7	29.329	29.303	29.334	— 20.0	- 19.6	— <i>2</i> 6.0	— 19.0	- 23.0	— <b>18.3</b>	- 18.2	26.2	22.2	8.0
8	29.423	29.480	29.639	— <b>27.</b> 4	- 26.6	- 32.0	- 25.0	- 29.3	- 26.4	26.4	32.9	- 29.0	7.9
. 9	29.680	29.673	29.645		38.0	<b>—</b> 31.0	- 32.0	- 42.0	- 37.0	31.0	39.0	- 36.5	11.0
10	29.657	29.674	29.733	— 42.2	— 43·9	— 46.o	— 31.o	- 42.9	42.2	- 42.2	— 46 <b>.</b> 2	— <u>3</u> 8.6	15.2
II	29.780	29.789	29.820	<b>— 42.0</b>	— 44.0	— 38.o	- 42.0	— 47 <b>.</b> 0	- 42.0	- 38.o	— 46.1	— 42.5	9.0
12	29.701	29.735	29.894	20.0	24.9	— 35·5	20.0	— 38.o	20.0	,20.0	— 39.6	- 29.8	19.6
, 13	29.751	29.663	29.309	<b>— 11.6</b>	+ 7.2	+ 8.2	10.8	— 36.0	+ 7.2	+ 9.0	— 11.6	- 13.5	45.0
14	28.956	28.960	29.402	+ 23.5	+ 27.4	<b>—</b> 19.0	+ 24.0	- 10.2	+ 27.4	+ 27.4	— 19.0	+ 4.2	46.4
15	29.284	29.007	28.762	— 17.o	- 11.0	- 20.0	— 16.o	25.I	10.8	— 10.8	— 20,.0	— 18.o	14.3
. 16	29.060	29.245	29.339	— 30.o	— 30.o	- 17.4	20.0	- 30.0	30.0	— 17.4	— 30.4	23.9	13.0
17	29.216	29.198	29.280	<b>— 13.6</b>	- 13.1	- 21.2	- 9.0	- 17.4	- 13.0	— 13.0	- 22.6	_ 15.8	13.6
18	29.536	29.567	29.657	27.0	— 23.0	- 22.4	21.2	- 34.2	- 23.0	- 22.4	- 27.0	27.7	13.0
19	29.726	29.750	29.745	— 21.0	- 28.0	<b>— 25.0</b>	- 21.0	— 26.1	- 21.0	21.0	- 28.0	- 24.5	7.0
20	29.642	29.598	29 353	- 11.9	_ 7.6	- 7.9	- 11.9	25.0	- 7.6	- 4.2	— II.9	<u> </u>	20.8
, 21	29.062	, 29.123	29.197	+ ,14.0	+ 25.0	+ 23.0	+ 14.0	- 7.9	+ 25.4	+ 25.4	+ 14.0	+ 8.8	33.3
22	29.093	29.303	29.613	+ 19.0	+ 0.5	— 16.0	+ 24.0	+, 17.0	+ 19.0	+ 19.0	16 <sup>t</sup> .o	+ 4.0	40.0
23	29.614	29.560	29.516	+ 18.0	+ 19.5	+ 17.9	+ 18.0	— 16.o	+ 20.0	+ 20.0	+ 16.0	+ 2.0	36.o
24	29.497	29.536	29.535	+ 19.5	+ 18.0	+ 10.4	+ 20.1	+ 16.5	+ 20.8	+ 20.8	+ 10.0	+ 15.4	10.8
25	29.557	29.600	29.661	+ 6.8	+ 3.0	0.0	+ 10.0	+ 6.8	+ 6.8	+ 6.8	0.0	+ 5.0	10.0
26	29.609	29.684	29.714	+ 6.5	+ 8.2	+. 9.0	+ 6.8	2.5	+ 9.0	+ 10.1	+ 5.0	+. 3.8	12.6
27	29.772	29.709	29.702	+ 4.4	+ 4.0	+ 1.0	+ 11.8	+ 3.1	+ 4.5	+ 4.5	0.0	+ 5.9	11.8
28	29.730	29.758	29.810	+ 9.4	+ 15.0	+ 11.0	+ 10.2	+ 1.6	+ 15.2	+ 18.0	+ 9.0	+ 9.8	16.4
29	29.711	29.642	29.282	+ 6.2	+ 7.6	+ 5.6	+ 11.0	+ 6.0	+ 8.0	+ 8.0	+ 5.6	+ 8.3	5.4
	29.075	29.065	29.24I	+ 8.5	+ 7.2	+ 2.4	+ 9.1	+ 3.8	+ 8.8	+ 8.8	+ 2.0	+ 5.6	7.I
	884.574	855.233	885.304	-298.3	-253.3	<del></del>	-203.4	-537 • 4	-201.2	—I85.7	-483.3	-372.5	495.2
Sum:	00	29.491	29.510	9.9	— 8. <sub>7</sub>	12.9	6.8	— 17.9	<b>–</b> 6.9	- 6.2	1		16.5
Mean	29.480		29,310				1 :		<u> </u>	1			

Tabulation of daily meteorological observations at Teplitz Bay during the month of November, 1903—Continued
Observer: Francis Long

				Durare	TATION									W	IND					
				r recip	TIATION					8	Зн			1:	2H			2	юн	,
Date	8н	12H	20Н	Total	Character	Beginning		Ending	Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction
	In.	In.	In.	In.		h	m	h m		Mi.	Mi.			Mi.	Mi.			Mi.	Mi.	
I	.00	.00	.00	.00		•••	••	••	N	8	12	N	NW	5	8	NW	NW	12	15	NW
2	.00	.00	.00	.00	•••	•••	••	•••	NE	5	15	NE	NE	12	14	NE	NE	10	20	NE
3	.00	.00	.00	,00				•• ••	NE	10	12	NE	NE	8	10	NE	NW	5	15	NW
4	.00	.00	.00	.00				••	NW	5	15	NW					N	4	12	N
5	.00	.00	.00	.00	•••	•••		••	E	I	14	N	SE	2	3	E	W	5	12	W
6	.00	.00	.00	.00			.	••	NW NE	I	12	NW	NW	3	6	NW	NW	5	6	NW
7 8	.00	.00	.00	.00			•	•• ••	NE	3	8	NE	NE	5	5	NE	NW	2	6	NW
9	,00	.00	.00	.00					E	2	6	NE E	NE NE	8	10	NE NE	E	3	10	E
10	.00	.00	.00	.00					NE	I	8	NE	E	6	2	E	E	I	4	E E
11	.00	.00	.00	.00					E	5 2		E	NE	2	12	E	SE	3	15	SE
12	.00	.00	.00	.00					ssw	12	16	ssw	W	5	12	ssw	E	4	15	SSW
13	.00	.00	.00	.00					SE	32	36	SE	SSE	30	42	SSE	s	48	52	8
		:			R	8 .	40	9 15	<b>1</b>	] 3-		~		] 30	42	862		40	J2	,
14	.00	.01	${f T}$	.01	S <sup>m</sup>			12 IC 20 25	}   8	10	52	S	sw	10	12	S	w	22	26	w
15	т	T	.14	.14	Sd Sd		30	8 50	NH.	2	20	NE	ESE	29	31	E	N	14	32	N
16	.00	.00	.00	.00		Ì .		17 30	'  N	20	27	N	w	15	20	w	sw	10	20	w
17	.00	T	т	T	S <sup>4</sup>	1 (	00	4 20	w	to	28	w	w	10	15	w	NE	9	12	N
18	.00	.00	.00	.00		,			NE	5	12	NW	w	5	8	w	SE	4	8	SE
19	.00	.00	.00	.00					sw	5	10	sw	SE	3	5	8	SE	8	8	SE
20	.00	.00	.12	.12	S <sup>a</sup>	13 4	10		8	5	10	S	SE	15	16	SE	SSE	36	42	SSE
21	.15	.01	.10	.26	Sd Sd			3 00	सा ह	24	52	S	s	23	30	ន	s	15	28	S
22	.16	.03	.00	.19	Sm			10 20	SSE	20	52	SSE	sw	20	42	sw	N	7	42	sw
23	.04	.15	.02	.21	S <sup>m</sup>	3 3	30	16 15	ESE	28	35	ESE	ESE	30	39	ESE	S	33	48	SE
24	.00	.00	.00	.00	Sm	20 3	35		ESE	24	48	ESE	ESE	24	29	SE	ESE	36	46	ESE
25	.15	.00	.00	.15	Sm			10 00	ESE	8	60	ESE	W,	8	38	SE	N	<b>3</b> 6	38	SE
26	.00	.00	.00	.00	•••	•••			E	36	58	E	E	36	48	E	SE	40	56	SE
27	.00	.00	.00	.00	•••				SE	15	48	SE	Œ	48	49	E	SE	27	60	SE
28	.00	.00	.00	.00	•••			••	SE	30	48	SE	E	35	35	E	SE	36	48	SE
29	.00	.00	.04	.04	$S^m$	17	ю	22 30	ESE	48	56	ESE	SE	60	60	SE	ESE	60	66	ESE
30	.10	.03	.02	.15	S <sup>d</sup>	3 3	30	16 10	SE	36	76	ESE	NE	10	15	NE	w	23	23	w
Sum	.60	.23	•44	1.27	•••		$\cdot \cdot \mid$			413	853	• • •		468	618	•••	•••	522	789	p
Mean	•••	•••	•••	•••	•••				NE	13.8	28.4	NE	NE	16.1	21.3	E	SE	17.4	26.3	SE

#### METEOROLOGICAL OBSERVATIONS

Tabulation of daily meteorological observations at Teplitz Bay during the month of November, 1903—Continued Observer: Francis Long

						Ob	server:	FRANCIS 1	<b>JONG</b>		
					Сьот	JDS					
		8н		-	12H			20H		<b>-</b> 10	
Date	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
1	2	s	N	o		•••	10	S	NW	ı	
2	8	S*	NE	} 2	(A-Cu)	NE }	Few	8	E	6	-
3		S	NE	{ 4 { 3 6	(A-S)	NE }	10	s	NW	8	
	4		1112	1 6	S	NE \$			1111		
4	0	•••	•••		•••		0	•••	•••	I	
5	10	S	E	10	s	SE	Few	S	E	7	
6	10	s	NW	10	s	NW	0	•••	•••	8	
7	Few	(Ci-S)	N	10	S	NE	0	•••	•••	6	Paraselene 1:00 to 9:00.
8	O		•••	Few	s	E	0	•••	•••	0	Lunar halos 0:30 to 4:00.
9	0			Few	s	•••	0	•••	•••	0	
10	0	•••		o			0	•••	•••	o	Light haze 8:30 to 10:00.
11	О			0	•••		0	•••	•••	0	
12	10	S	S	Few	s	SE	0	•••		7	Light haze from 21:00; "America" nipped first
13	10	S	SE	10	s	SSE	10	s	S	10	Light haze to 4:00; high wind and drifting snow.
14	10	s	s	10	N	sw	10	s	w	10	Show.
15	10	N*	NE	10	s*	ESE	{ 3	(Ci)	N } N }	10	Light fog 5:00 to 16:00; drifting snow 10:10 to 24:00.
16	I	s	N	o	•••	•••	3	s	sw	2	
17	2	s	w	10	8*	w	o	•••	•••	5	Drifting snow 1:00 to 4:20; light fog 10:20 to 13:00.
18	o	•••		3	S	W	0	•••	•••	I	
19		H.		o	•••		0	•••		0	Light haze 7:00 to 9:10.
20	10	s	S	10	s	SE	10	N	SSE	10	Drifting snow from 15:00; high winds from south-southeast.
21	10	s	S	10	N	S	10	N	S	10	South Southeast.
22	10	N	SSE	10	s	sw:	Few	s	N	7	
23	10	N	ESE	10	N	ESE	2	s	s	10	Heavy drifting snow 6:00 to 16:15.
24	6	ន	ESE	2	ន	SE	10	s	ESE	7	Very high winds from east-southeast after
25	10	N	ESE	10	S	W	o	•••		7	23:00. High winds and drifting snow to 10:00.
26	10	s	E	10	S	E	Few	s	SE	7	High east wind and drifting snow from 12:40.
27	Few	s	SE	Few	S	E	0	•••		ı	High winds and drifting snow to 5:00.
28	ı	s	SE	10	S	Е	10	S	SE	10	High east to southeast winds.
29	10	ន	ESE	10	S	SE	10	N	ESE	10	High east to southeast winds.
30	10	N	SE	10	N	NE	ю	s	w	10	
Sum	164			180	•••		109	•••	• • •	171	
Mean	5.7			6.2	•••	•••	3.6	•••		5.7	

Tabulation of daily meteorological observations at Teplitz Bay during the month of December, 1903

Observer: Francis Long

					READING OF			Self-reg	ISTERING	Fahrenh	EIT THER	MOMETERS	
DATE	REDU	JCED BARON	1ETER	FAHREN	HEIT THER	MOMETER	81	Ħ	12H	. 20	он	Mean of	Rangé
	8н	12H	20H	8н	12H	20H	Max.	Min.	Max.	Max.	Min.	extremes	range
	In	In.	In.	0		o	•	o	•		•	0.	0
I	29.295	29.236	29.223	+ 1.4	+ 2.2	— 6.o	+ 2.4	+ 1.0	+ 2.8	+ 2.8	- 6.4	- I.8	9.2
2	29.279	29.293	29.367	11.2	- 12.0	— II.2	- 6.0	- 11.2	— II.2	- 10.0	— I3.0	- 9.5	7.0
3	29.392	29.429	29.462	2.0	- 2.2	+ 2.0	- 2.0	— 16.o	- 1.6	+ 2.0	- 4.0	7.0	18.0
4	29.442	29.455	29.536	+ 4.0	+ 2.0	- 6.0	+ 4.5	0.0	+ 4.8	+ 4.8	— 6. <sub>4</sub>	- o.8	II.2
5	29.674	29.692	29.655	- 10.0	10.8	- 7.5	6.0	— I5.2	- 10.0	— 7·5	- 10.0	- 10.6	9.2
6	29.698	29.765	29.940	— 18.o	- 25.2	— 35.o	— 7·5	— 18.o	— 18.o	18.0	— 36.o	— 21.8	28.5
7	30.161	30.223	30.260	<b>— 27.5</b>	— 25.0	22.4	- 27.5	- 35.0	24.8	- 21.9	— 29.0	— 28.4	13.1
8	30.305	30.332	30.397	— 21.2	- 20.2	<b>— 14.8</b>	<b>— 19.2</b>	23.9	- 19.5	— <b>14.8</b>	- 22.I	- 19.4	9.1
9	30.556	30.669	30.700	— I7.5	- 19.0	— I9.2	- 14.8	- 19.0	— 15.1	- 15.1	- 21.0	- 17.9	6.2
10	30.845	30.818	30.727	- 15.0	- 13.8	- 9.2	- 12.2	- 20.0	- 13.8	- 9.2	- 17.0	<b>— 14.6</b>	10.8
11	30.561	30.478	30.430	— 8.o	- 4.0	- 4.0	- 8.0	- 9.2	<b>— 3.8</b>	- 3.2	- 8.0	<b>—</b> 6.2	6.0
12	30.243	30.235	30.306	— 6.o	— 6.o	- 4.0	— 4.o	- 8.0	5.8	- 3.6	- 9.2	- 6.4	5.6
13	30.240	30.169	30.056	<b>—</b> 9.2	<b>— 7.9</b>	<b>— 14.5</b>	— <b>3.</b> 8	- 9.4	7.6	4.2	- 14.5	<b>— 9.2</b>	10.7
14.	29.959	30.011	30.089	18.0	22.0	18.0	- 8.4	- 18.0	- 14.5	— 14.5	- 22.8	- 15.6	14.4
15	30.130	30.083	29.945	— 23.8	20.0	- 23.5	18.0	- 24.0	- 20.0	- 20.0	- 25.3	- 21.6	7.3
16	29.970	30.048	30.292	— 23.0	- 20.0	19.0	— 22.8	- 25.4	— 20.0	- 16.2	24.0	<b>— 20.8</b>	9.2
17	30.330	30.356	30.317	18.0	12.2	- 10.9	— 18.o°	- 21.0	- 12.2	- 6.4	- 19.0	<b>— 13.7</b>	14.6
18	30.125	30.068	30.017	— 16.0	<b>— 16.0</b>	- 18.5	- 4.9	— 18.1	, <del>,                                    </del>	14.9	- 18.5	- 11.7	13.6
19	29.914	29.911	29.875	— 16.o	- 18.4	- 27.0	- 15.5	- 21.0	— 16.0	— 16.o	<b>— 28.0</b>	21.8	12.5
20	29.862	29.855	29.849	- 28.4	- 27.0	19.0	- 27.0	- 32.0	23.0	— 17.0 <sub>.</sub>	— 28.o.	- 24.5	15.0
21	29.735	29.646	29.628	24.0	- 23.2	<u> </u>	<b>— 19.0</b> .	27.0	_ 22.8	20,0,	25.0	- 23.0	8.0
22	29.695	29.670	29.644	- 23.8	— 22.0	— ·18.0	20.4	- 24.0	22.0	18.0	- 25.2	_ 21.6	7.2
23	29.732	29.724	29.770	— 20,0	- 18.2	- 18.9	. — 17.6	- 22.0	- 17.0	<b>— 16.0</b>	- 22.0	— 19.o	6.0
24	29.847	29.878	29.931	25.0	24.0	— 28.9	- 18.5	- 27.8	20.4	20.4	<b>— 30.0</b>	24.2	11.5
25	29.738	29.713	<i>2</i> 9.657	— 13.8 <sub>.</sub>	14.0	15.0	<b>— 13.8</b>	— 29. I	- 13.8	— 13.8·	— 16. <u>0</u>	_ 21.4	, 15.3
26	29.763	29.788	29.813	— 20.0	- 23.2	- 22.I	15.0	- 20.4	20.0	- 20.0	- 25.6	_ 20.3	10.6
27	29.722	29.649	29.461	<b>— 14.5</b>	- 15.0	— 17.5	— 14.o	- 22.I	12.0	<b>— 12.0</b>	— 17.5 <u>]</u>	— I7.0	10.1
28	· 29.22I	29.221	29,336	— 18.9	— 19.8	<b>— 17.0</b>	- 17.5	- 20.0	18.9	— 16.o	- 21.0	— 18.5	5.0
29	29.663	29:692	29.743	15.0	15.8	'18.o	15.0	- i8.5	— 14.5	- 11.2	- 20.0	<b>— 15.6</b>	8.8
30	29.721	29.686	29.565	— I7.9	20.0	— 14.o	— 17.6	— 21.2	- 17.9	— 14÷0	- 21.4	— I7.7	7.4
31	29.339	29.290	29.193	- 10.0	- 10.0	4.0	— 8.1	- I4.0	— 8.o-	- 3.8	- 10.0	- 8.9	10.2
Sum	926.157	926.083	926.184	-486.3	-482.7	<u>-481.5</u>	-395.2	-589.5	-432.5	368, 1	595.9	<b>—490.5</b>	331.3
Mean	29.876	29.874	29.877	- 15.7	- 15.6	— 15.5	- 12.7	i	<b>— 14.0</b>	- 11.9	- 19.2	<b>— 15.8</b>	10.7

Tabulation of daily meteorological observations at Teplitz Bay during the month of December, 1903—Continued Observer: Francis Long

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				Preci	OITATIO	7							W	ND		1			
Date	ļ		1				<u> </u>			Вн	-		1:	2H	,		2	он	
	8н	1211	20H	Total	Character	Beginning	Ending	Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction
I	In.	In.	In.	In.	S <sup>d</sup>	h m	h m	sw	Mi.	Mi. 30	sw	w	Mi.	Mi.	sw	w	Mi.	Mi.	w
2	.00	.00	.00	.00				w	5	20	Ŵ	NW	5	10	w	w ·	15	15	w
3	.00	.00	.00	.00				$\mathbf{w}$	30	35	w	w	20	36	w	w	20	36	w
4	.00	r	T	T	Sª	11 50	12 30	sw	14	23	w	w	8	20	$\mathbf{w}$	N	11	20	$\mathbf{w}$
5	.00	.00	.00	.00				E	4	15	N	E	2	3	E	s	3	5	E
6	.00	.00	.00	.00				Ŋ	8	9	N	N	5	6	Ŋ	N	6	7	N
7	.00	.00	.00	.00				Ŋ	. 6	12	Ŋ	C	0	8	N	N	8	18	N
8	.00	.00	.00	.00				NE	5	27	NE	SE.	15	20	SE	Þ	<b>‡5</b> .	20	E
9	.00	.00	.00	.00				SE	38	48	E	E	бо	6о	E	<b>E</b>	58	бо	E
10	.00	.00	.00	.00				SE	12	53	E	SE	24	<b>3</b> 6	SE .	SE ·	36	42	SE
11	.00	.00	.00	.00				SE	38	48	SE	ESE	48	52	ESE	E	39	54	E
12	.00	.00	.00	.00	• • • •			E	70	72	E	E	72	72	E	E	50	84	E
13	.00	.00	.00	.00	•••			E	5	36	E	E	10	15	E	E	24	28	E
14	.00	.00	.00	.00	•••			E	34	42	E	E	24	45	E	E.	36	38	E
15	.00	.00	.00	.00	•••			E	33	36	Ę	E	15	35	E	₽.,	35	42	E
16	.00	.00	.00	.00	• • • • • • • • • • • • • • • • • • • •			E	62	72	E	SE	62	72	·SE	W.	12	72	ESE
17	.00	.00	.00	.00	•••			ESE	60	60	ESE	ESE	48	60	SE	SE:	20	60	SE
18	.00	.00	.00	.00	•••			E	36	36	E	sw	23	48	E	S	4	48	E
19	.00	.00	.00	.00	•••			E	22	24	E	S	14	24	E	EI.	32	48	E
20	.00	.00	.00	.00	•••			E	48	50	E	E	48	48	E	SE ·	25	58	SE
21	.00	.00	.00	.00	•••			E	8	30	E	NĒ	, 2	10	NE	SE.	15	19	SE
22	.00	.00	.00	.00	•••		•• ;•	ESE	46	46	ESE	Œ	48	50	E	ESÉ	ба	70	ESE
23	.00	.00	.00	.00	•••		•• ••	E	46	66	ESE	E	42	54	E	E	12	54	E
24	.00	.00	.00	.00		•••		NE	23	25	NE	NE	5	20	NE	NE	5	41	NE
25	.00	.00	,00	.00	•••			NNE	17	36	NE	NE	28	32	NE	NE	30	32	NE
26	.00	.00	.00	.00				SE	14	33	NE	NE	4	15	NE	NE	5	15	NE
27	.00	.00	.00	.00	•••		••••		23	25	SE	SE	32	35	SE	SE	48	48	SE
28	.00	.00	.00	.00				SSE	82 0	84	SSE	SE	72	84	SSE	SE	72	84	SSE
29	.00	.00	.00	.00	•••	,		E	8	60	SE E	E	12	20	S	E	5	20	S
30	.00 T	 T		.00	∫ S <sup>d</sup>	6 00	8 30	SE	3	6 28	SE	SE	2	5	E	S	8	II	S
31			.04	.04	S <sup>4</sup>	13 30			36		- SE	, DE	33	36	SE	<u>s</u> .	34	49	8
Sum	.00	.00	.04	.04	•••				858 27.7	1197 38.6	Œ	E	800 25.8	1055	100		758	1222	
Mean		•••	•••	•••	•••	•• ••	•• ••	19	4/./	30.0	ы	E	25.0	34.0	E	16	24.5	39.4	Е

Tabulation of daily meteorological observations at Teplitz Bay during the month of December, 1903—Continued

Observer: Francis Long

					Сго	UDS					
		8н			12H			20H		- "	
Date	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
I	10	s	sw	10	N	w	2	S-Cu	w	10	
2	o	•••		o			} I	(Ci)	W }	5	
3	10	s	w	8	s	w	10	S	w	8	
4	10	s	sw	10	N	w	{ 6 { 4	(A-S)	N }	10	Lunar halo 22:00 to 24:00.
5	10	s	E	4	(A-S)	) E	§ 6	(A-S)	s }	7	
6	0	•••		o			o			I	
7	О	•••		0	•••		o	•••		o	Lunar halos 0:30 to 7:00 and 12:30 to 13:00.
8	0	•••		0	н		0	•••		0	Lunar halo 1:30 to 7:55.
9	0	•••		0			О	•••		2	Drifting snow.
10	0	•••	• • • •	0	•••	• • • •	10	S	SE	6	High east to southeast winds.
11	10	S	SE	10	S	ESE	10	S	E	10	High winds and drifting snow.
12	10	S	E	10	S	E	0	•••	•••	8	Heavy drift to 19:00.
13	0	•••	• • • •	0	•••	• • • •	Few	(Ci-S)	E	1	
14	0	*		0	*		0	•••	•••	I	
15	0	•••		Few	S	E	0	•••	•••	0	Drifting snow to 11:45.
16	0	• • •	•••	0	•••		4	S	W	2	
17	0	•••	•••	6	S	ESE	2	S	SE	4	
18	0			0	•••	•••	0	•••	•••	I	Light fog 11:45 to 24:30.
, 19	, 0	H		0	•••	•••	0	•••	•••	0	
. 20	4 2	(A–S) S	E (	4	s	IE.	0	•••		3	
21	0	• • •	•••	0	H	•••	0	•••	•••	0	Light haze 10:10 to 13:00.
22	Few	Cu	ESE	0	• •••		{Few {Few	(Ci) S-Cu	ESE }	0	
23	2	s	E	0	•••	•••	2	S-Cu	E	2	
24	2	s	NE	2	S	NE	0	• • •		2	
25	10	S	NE	2	S	NE	4	S	NE	4	
<b>2</b> 6	0	H	•••	_ 0	H		2	SH	SE	I	Light haze from 7:00.
27	4	S	SE	Few	S–Cu	SE	3	S-Cu	SE	2	Drifting snow.
28	10	s	SSE	10	S	SE	3 4	S-Cu S	SE }	7	
29	0	•••		0	•••	• • •	0	*	•••	I	Light fog from 16:50.
30	4	S*	S	0	// A . CO.)	(177	0	* * *		I	Light fog to 9:00; light haze from 21:30.
31	10	N	SE	5 3	'(A-S) S*	SE }	10	N	s	10	Light haze to 2:30; light fog 9:00 to 18:00.
Sum	108	•••		84	•••	•••	89	•••	•••	109	
Mean	3.5	•••	•••	2.7	•••	•••	2.9	• • •		3.5	

## METEOROLOGICAL OBSERVATIONS

Tabulation of daily meteorological observations at Teplitz Bay during the month of January, 1904

Observer: Francis Long

					Oose	erver: Fran	icis Long						
		-			READING O	E,		SELF-REG	ISTERING	Fahrenh	EIT THER	MOMETERS	
Date	RED	UCED BARO	METER		HEIT THER		8:	Ħ	12H	20	OH	Mean of	Range
	8н	12H	20H	8н	12H	20Н	Max.	Min.	Max.	Max.	Min.	extremes	Kange
	In.	. In.	. In.	o	۰	۰	o		•			•	۰
1	29.286	29.338	29.273	— IO.O	— I7.5	9.8	+ 3.8	— 10.0	- 10.0	9.8	- 18.0	- 7.I	21.8
2	29.186	29.304	29.564	11.0	- 24.0	30.0	- 6.4	11.2	- 11.0	11.0	— 31.0	- 18.7	24.6
3	29.564	29.354	29.287	- 28.4	— 18.0	15.4	- 28.4	- 33.6	18.0	- 14.2	- 28.4	- 23.9	19.4
4	29.603	29.662	29.639	- 27.5	— 30.o	- 23.I	— I5.4	- 29.4	27.5	23.0	- 32.0	- 23.7	16.6
5	29.410	29.541	29.862	- 21.0	- 29.0	37.0	- 18.8	— 23.1	21.0	21.0	38.0	- 28.4	19.2
6	29.552	29.317	29.036	— 21.0	— 15.0	8.o	- 21.0	— 40.0	15.0	8.0	- 22.6	- 24.0	32.0
7	29.060	29.129	29.233	- 15.0	— 20.0	— 24.I	+ 4.0	— I5.0	- 15.0	15.0	- 27.2	- 11.6	31.2
8	29.289	29.248	29.148	- 23.5	21.8	— 16.8	- 23.0	27.1	21.0	16.7	- 24.2	- 21.9	10.4
9	29.173	29.162	29.151	- 17.0	16.9	- 24.0	- 14.6	22.0	16.2	— Iб.2	- 24.3	<b>— 19.4</b>	9.7
10	29.366	29.425	29.448	22.0	— 25.0	— 30.I	- 22.0	30.0	22.0	22.0	— 31.0	- 26.5	9.0
11	29.467	29.492	29.604	29.8	— 37.o	45.4	— 28.o	- 31.0	29.8	29.8	— 46.o	- 37.0	18.0
12	29.704	29.732	29.701	46.0	— 47·2	— 50.0	<b>— 45.0</b>	48.0	<b>— 46.0</b>	- 46.0	<b>— 50.9</b>	48.0	5.9
13	29.772	29.823	29.871	- 49.9	— 50.2	<b>— 48.0</b>	49.9	<b>— 52.0</b>	49.8	48.0	- 52.0	50.0	4.0
14	29.954	29.977	30.032	47.8	- 47.0	<b>— 40.0</b>	<b>— 47.8</b>	- 50.0	46.0	40.0	- 50.0	- 45.0	10.0
15	29.921	29.902	29.891	26.9	24.0	- 24.0	<b>— 26.9</b>	<b>—</b> 42.2	24.0	- 23.4	26.9	- 32.8	18.8
16	29.665	29.494	29.267	— 10.o	— 3.0	+ 11.0	- 10.0	- 24.0	- 3.0	+ 12.2	10.0	- 5.9	36.2
17	29.404	29.485	29.476	+ 4.0	+ 3.0	0.0	+ 12.2	+ 3.2	+ 4.0	+ 4.0	— I.o	+ 5.6	13.2
18	29.381	29.379	29.410	+ 11.9	+ 10.2	+ 11.9	+ 14.0	0.0	+ 12.0	+ 12.0	+ 10.0	+ 7.0	14.0
19	29.468	29.455	29.369	+ 11.8	+ 14.0	+ 10.0	+ 12.2	+ 8.8	+ 14.0	+ 14.2	+ 7.7	+ 11.0	6.5
20	29.155	29.156	29.136	+ 11.0	+ 18.0	+ 15.0	+ 11.2	+ 8.9	+ 19.0	+ 22.0	+ 11.0	+ 15.4	13.1
21	28.693	28.570	28.843	+ 15.0	+ 23.5	— 6.o	+ 15.5	+ 3.0	+ 24.0	+ 30.8	— 6.o	+ 12.4	<b>3</b> 6.8
22	28.250	28.243	28.370	+ 26.0	+ 25.1	<b>— 5.0</b>	+ 26.0	10.0	+ 26.0	+ 26.0	— <b>5.0</b>	+ 8.0	36.0
23	28.724	28.823	28.997	— 11.o	- 12.0	— 13.0	<b>— 5.0</b>	- 11.0	- 11.0	11.0	- 15.0	— 10.0	10.0
24	29.168	29.227	29.264	+ 8.2	+ 2.0	0.0	+ 8.2	— 18.o	+ 8.0	+ 8.2	0.0	- 4.9	26.2
25	29.414	29.412	29.446	<b>— 2.5</b>	- 4.0	<b>— 7.0</b>	+ 3.0	- 2.5	- 2.1	- 2.1	- 7.0	2.0	10.0
26	29.500	29.552	29.619	— 14.0	— 15.o	— 16.0	- 7.0	15.0	- 14.0	— 14.0°	- 19.0	— 13.0	12.0
27	29.651	29.673	29.749	— 18.0	— 19.o	24.0	15.4	20.0	— 16.0	— 16.o	- 25.0	- 20.2	9.6
28	29.904	29.952	29.993	— 27.0	<i>— 2</i> 5.0	26.0	22.0	— 28.2	25.0	- 23.8	- 27.6	- 25.1	6.2
29	29.905	29.857	29.852	- 22.2	<b>— 21.6</b>	- 22.4	<b>— 21.6</b>	26.9	20.2	- 20.2	- 23.2	- 23.6	6.7
30	29.949	29.988	30.082	- 23.0	23.0	- 23.0	22.0	25.0	- 22.8	- 21.4	26.8	- 24.1	5.4
31	30.225	30.266	30.349	<b>— 25.</b> 0	— 28.o	28.0	- 21.2	29.6	- 24.0	- 24.0	- 30.2		9.0
Sum	912.763	912.938	913.962	<u>-461.6</u>	-477 • 4	-548.2	-361.3	<u>650.9</u>	-403.4	-347.2	-669.6	- <del></del>	501.5
Mean		29.449	29.483	<b>— 14.9</b>	<del>-</del> 15.4	- 17.7	<u>-</u> 11.7	- 21.0	<b>— 13.0</b>	— II.2	- 21.6		16.2
	-2:777						<u> </u>		]	I		]:	1

Tabulation of daily meteorological observations at Teplitz Bay during the month of January, 1904—Continued
Observer: Francis Long

				Dartern	ITATION								Wı	ND					
_	. ,			I RECIP	ITATION				8	Вн			12	эн			2	он	
Date	8н	12H	20日	Total	Character	Beginning	Ending	Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction
- I	In.	In.	In	In.	٠. پڑھ	h m	h m 6 30	w	Mi.	Mi. 34	w	PVV1	M1:	Mi.	w	W.	Mi. 15	Mi. 49	W
2	.00	.00	.00	.00	•••			E	15	16	E	NE	15	23	NE	NW	7	23	NE
3	.00	.00	.00	.00	• • •			<b>E</b> .	5	8	w	E	36	40	ESE	, E	9	47	E
4	.00	.00	.00	.00				N	5	34	N	N	10	1/2	N	· E	5	12	N
5	.00	.00	.00	.00	• • •			E	15	15	E	ENE	23	24	ENE	NW	8	29	ENE
6	.06	.05	.09	.20	$S^d$	4 00		ESE	. 23	23	ESE	ESE	24	42	ese	SE	4	42	ESE
7	.10	${f T}$	$\mathbf{T}$	.10	Sd Sd	 II 45	4 30 12 15	NE	16	24	NW	NE	15	15	NE	w	18	35	NE
8	.00	•00	.00	.00	•••			E .	45	48	ESE	ESE	42	48	ESE	10	28	50	ESE
9	.00	.00	.00	.00	•••			s	2	26	E	·s	I	5	S	E	28	34	Ю
10	.00	.00	.00	.00	•••			NE	8	48	E	NE	4	15	E	E	3	13	E
II	.00	.00	.00	.00	•••			NE	22	30	NE	ENE	<b>3</b> 6	36	ENE	N	5	38	N
12	.00	.00	.00	.00	•••			NE	8	14	N	N.	10	12	N	N	25	25	N
13	.00	.00	.00	.00	•••			N :	14	24	N	ENE	2	10	N	E	I	10	N
14	,00	.00	.00	.00	•••			<b>c</b> .	0	3	N	C	0	3	SE	ESE	4	4	ESE
15	.01	T	.00	.01	$S^d$	5 30	8 20	s :	· IO	10	s	sw	17	20	sw	SE	8	20	sw
16	.10	.07	.09	.26	Sa	3 00	21 00	SE .	26	35	SE	S	24	27	SE	s	15	27	SE
17	.10	.04	Т	.14	S <sup>m</sup>	I 40	12 10	S	3	16	S	w	11	12	sw	w	I	12	sw
18	.06	T	.09	.15	Sm Sm	5 00 12 40	9 30	sw	20	34	sw	SW:	20	24	sw	w	17	28	W
19	.09	.00	.00	.09	S <sup>m</sup>	:	I 00	S	12	20	s	S	12	15	S	SE	35	37	SE
20	.00	.00	Т	T	S <sup>m</sup>	19 15		s	50	54	s	S	33	50	S	w	15	50	S
21	.30	.24	.00	•54	S <sup>m</sup>		10 10	s	60	72	s	S	48	72	S	w	8	72	S
22	.00	.00	.00	.00	•••			S	30	60	S	S	45	48	s	s	50	75	S
23	.00	.00	.00	.00	•••			SE	12	65	S	S	10	15	SE	E.	8	15	SE
24	T	.08	T	.08	Sª	7 00	12 05	SE	15	32	SE	SE	6	30	SE	E	52	54	SE
25	.00	.00	.00	.00	•••			SE	18	52	E	ESE	15	28	E	E	18	28	E
26	.00	.00	.00	.00			•• ••	E	29	40	E)	E	30	36	E	NE	5	36	Ю
27	.00	.00	.00	.00	•••			NE	2	20	NE -	NE	5	8	NE	NE	14	14	NE
28	.00	.00	.00	.00	•••			E	3	12	E	NE	3	5	NE	E	5	7	E
. 29	.00	.00	.00	.00	•••			E	22	35	E	E	36	42	E	E	38	48	E
30	.00	.00	.00	.00				E	24	47	E	ESE	15	26	E	NE	12	35	NE
31	.00	.00	.00	.00				E	24	29	NE		15	28			12	28	<u></u>
Sum Mean	.91	.48	.27	1.66	****		-	163	558 18.0	980 31.6	E	   s	583 18.8	791 25.5	E	E	473 15.3	997	
MEGH	•••			•••	•••			]	10.0	31.0		8	10.6	23.3	10	<u> </u>	15.3	32.2	

## Tabulation of daily meteorological observations attz Bay during the month of January, 1904—Continued Observer: Francis Long

		-	<del></del>		Cro			TRANCIS I			
		8н			I2H			20H			
·Date	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
ı	o	•••		{ 2 I	(Ci-S) S H	W }	10	S-Cu	w	8	Lunar halo 7:45 to 8:30.
2	10	S*	E	0	•••	104.1	Few	(Ci) H	SE	i I	
3	{ 5 { 3	(A-S) S*	E	5	(A-S) S*	E	4 2	(A-S) S	E (	8	Light fog 7:00 to 18:00; drifting snow 10:45 to 14:35.
4	I	*		О	•••		o	• • •		. I	Lunar halo 23:10 to 24:00.
5	{ 2 { 2	(Ci-S) S H	E	Few	SH	ENE	2	(Ci) H	NW	I	Lunar halo to 1:00; light haze 6:10 to 24:00.
6	10	N*	ESE	10	N*	ESE	10	N*	SE	10	Light fog from 6:00.
7	10	·S*	NE	10	N*	NE	0	***		8	Light fog to 16:00.
8	Few	s	E	Few	s	ESE	ΙÒ	S	E	5	Drifting snow 6:00 to 16:40.
9	10	s	s	, 10	S	S	Q	*	• • • •	8	Light fog 17:00 to 21:00.
10	0	•••		О			0 .:'	н	•••	0	Haze 18:40 to 20:40.
11	О	• • •	• • •	О			ö	•••	• • •	o	Haze from 22:00.
12	10	SH	NE	4	S*	N	O,	•••	•••	6	Haze to 8:15; light fog 8:15 to 13:30.
. 13	0	*	• • •	Few	S	SE	a	*	•••	o	Light fog 6:00 to 9:10 and from 18:40.
14	0		•••	0	• • •	• • •	Ö	*		0	Generally light fog.
15	10	N*	S	Few	s	SE	o	,	,	6	Light fog to 8:25.
16	10	N*	SE	10	N*	s	10	N*	s	10	Light fog 3:00 to 20:30.
17	10	N*	S	10	N*	:W	6	S*	w	9	Light fog 3:30 to 22:30.
18	10	N*	sw	10	S*	sw	10	N*	w	10	Generally foggy.
19	10	S*	S	10	S	S	10	S	SE	9	Light fog to 8:30; drifting snow from 19:30.
20	10	S	S	{ 5 4	(A–S) S	s }	IO	N	w	8	Drifting snow to 11:00.
21	10	N	s	10	S	S	Few	S	w	8	
22	10	S	S.	10	S	S	7	S	S	10	
23	Few	S	SE	Few	ន	SE	4	S	SE	2	Variable winds.
24	10	N	SE	10	N*	SE	O,	•••		7	
25	7	S	SE	, 10	S	ESE	{ 3	(Ci-S) S	E {	6	
26	o	•••		2	S	SE	} 2 2	(Ci-S) (A-S)	E }	I	
27	4	S	Ð	{ 2 { 2	(A-S) S H	SE }	Few	(Ci)	E	, 3	Light haze 9:25 to 14:00.
28	0	•••		0			o	• • •		О	
29	0			0		•••	o	•••		. 0	Drifting snow,
30	0			, o	• • •		o	• • •	•••	; o	
31	o		•••	О	•••		ó	•••		Ö	
Sum	164	•••	•••	140	•••	•••	103		•••	145	
Mean	5.3	•••	•••	4.5	•••	***	3.3	•••		4.7	

Tabulation of daily meteorological observations at Tepli Teplitz Bay during the month of February, 1904

Observer: Francis Long

2 3 4 5 6 7	REDUCE  8H  In. 30.473 30.486 30.540 30.424 30.128 29.921 30.001 30.149	I2H  In. 30.509 30.441 30.506 30.376 30.049 29.932 29.978	20H  In. 30.575 30.552 30.430 30.376 29.922 30.044		12H 12H 28.2 21.8 20.0 20.0		Max.	Min.  o  — 31.1  — 27.4	Max 26.0	Max. o	Min. ° — 30.6	Mean of extremes	Range ° 6.1
2 3 4 5 6 7	In. 30.473 30.486 30.540 30.424 30.128 29.921 30.001	In 30.509 30.441 30.506 30.376 30.049 29.932	In. 30.575 30.552 30.430 30.376 29.922	- 29.0 23.2 22.0 19.0	- 28.2 - 21.8 - 20.0	- 27.0 - 23.0	- 27.6	. — 31.1	26.o	0	0	extremes	0
2 3 4 5 6 7	30.473 30.486 30.540 30.424 30.128 29.921 30.001	30.509 30.441 30.506 30.376 30.049 29.932	30.575 30.552 30.430 30.376 29.922	- 29.0 - 23.2 - 22.0 - 19.0	- 28.2 - 21.8 - 20.0	— 27.0 — 23.0	<b>— 27.</b> 6	— 31.1	— <b>26.0</b>				
2 3 4 5 6 7	30.486 30.540 30.424 30.128 29.921 30.001	30.441 30.506 30.376 30.049 29.932	30.552 30.430 30.376 29.922	23.2 22.0 19.0	- 21.8 - 20.0	— 23.0		_		- 25.0	— <b>30.</b> 6	- 28.0	6.1
3 4 5 6 7	30.540 30.424 30.128 29.921 30.001	30.506 30.376 30.049 29.932	30.430 30.376 29.922	— 22.0 — 19.0	20.0		23.0	27.4	_				
4 5 6 7	30.424 30.128 29.921 30.001	30.376 30.049 29.932	30.376 29.922	— 19.o		— 16.0		_,	20.6	- 20.0	- 25.0	- 23.7	7.4
5 6 7	30.128 29.921 30.001	30.049 29.932	29.922		20.0		— 18.o	25.0	<b>— 11.4</b>	- 11.9	- 24.0	- 18.2	13.6
6 7	29.921 30.001	29.932		<b>—</b> 15.0		— 19.0	- 14.9	19.0	- 19.0	— 18.9	- 21.0	— 18.o	6.1
7	30.001		30.044		<b>— 17.0</b>	— I2.0	<b>— 15.0</b>	20.0	15.0	- 11.2	17.0	— 15.6	8.8
1	•	20.978		<b>— 12.0</b>	— I2.2	- 17.0	- 11.8	— 14.o	- 10.0	— 10.0	<b>— 17.0</b>	<b>— 13.5</b>	7.0
a. 11	20 740		29.982	- 19.0	<b>— 14.0</b>	<b>— 20.0</b>	— 18.6	21.0	— 14.o	- 14.0	20.0	- 17.5	7.0
8    .	30.149	30.188	30.084	- 15.0	- 21.0	- 4.0	— 15.0	— 24.I	15.0	4.0	— 22.0	— 14.o	20.I
9	30.253	30.266	30.300	— II.0	- 9.9	— 16.0	- 4.0	17.2	- 7.0	7.0	17.8	- 10.9	13.8
ю	30.154	30.067	29.881	- 12.0	11.0	- 10.0	<b>— 12.0</b>	- 17.0	11.0	10.0	— 12.2	13.5	7.0
11	29.690	29.640	29.651	— 19.o	<b>— 19.0</b>	— 37.o	- 9.1	- 19.0	- 18.5	<b>— 18.5</b>	— 37.0	_'23.0	27.9
12	29.807	29.870	29.964	- 41.9	— 43.0	— 42.5	— 37.0	42.2	41.8	— <b>39.8</b>	- 43.6	- 40.3	6.6
13	29.911	29.805	29.695	— 35.o	26.0	12.0	35.0	<b>— 43.0</b>	- 25.0	11.0	- 35.0	27.0	32.0
14	29.524	29.479	29.661	— 4.0	+ 4.0	— 24.0	_ 2.9	- 6.0	+ 4.0	+ 4.0	- 24.0	- 10.0	28.0
15	29.724	29.729	29.749	- 27.0	— 32.0	— 36.0	- 24.0	- 31.8	- 27.0	27.0	<b>— 43.0</b>	- 33.5	19.0
16	29.905	29.976	29.999	41.0	43.0	40.1	- 35.0	— 43·4	- 33.0	— 33.0	- 44.2	<b>— 38.</b> 6	11.2
17	29.770	29.590	29.282	21.0	<b>— 19.0</b>	- 7.5	- 21.0	<b>— 40.0</b>	<b> 18.6</b>	- 5.3	- 21.0	<b>— 22.6</b>	34.7
18	29.252	29.347	29.622	— 22.2	— 32.1	36.9	+ 4.0	- 22.2	— 22.2	22.2	— <b>3</b> 6.9	— 16.4	40.9
19	29.911	29.945	29.928	- 42.0	- 42.0	- 24.9	42.0	- 44.6	41.9	- 24.9	- 44.2	- 34.8	19.7
20	29.596	29.529	29.497	<b>— 19.0</b>	— 14.0	9.9	— 18.o	- 24.9	- 13.6	- 4.0	19.0	- 14.4	20.9
21	29.744	29.708	29.567	<b>— 12.0</b>	- 9.0	- 4.0	- 5.6	<b>— 17.4</b>	- 8.3	- 1.0	13.0	9.2	16.4
22	29.438	29.354	29.283	+ 6.2	+ 6.0	+ 14.0	+ 7.0	- 6.4	+ 6.2	+ 14.5	+ 2.6	+ 4.1	21.0
	29.479	29.666	29.945	<b>— 15.0</b>	25.0	- 27.5	+ 16.4	<b>— 15.0</b>	15.0	- 15.0	27.5	_ 5.6	43.9
	29.245	28.970	29.002	<b>—</b> 5.0	+ 20.0	+ 5.0	<b>—</b> 5.0	- 31.5	+ 20.0	+ 23.1	<b>—</b> 5.0	- 4.2	54.6
i l	29.165	29.226	29.472	<b>— 9.0</b>	15.0	— 16.8	+ 5.0	9.0	- 9.0	- 9.0	<b>— 17.4</b>	- 6.2	22.4
ii i	29.419	29.316	29.185	+ 5.0	+ 16.5	+ 24.1	+ 5.2	- 17.0	+ 16.8	+ 25.6	+ 5.0	+ 4.3	42.6
Ш	29.619	29.691	29.665	- 15.0	20.0	16.0	+ 24.1	<b>— 15.0</b>	<b>— 15.0</b>	<b>— 15.0</b>	25.0	- 0.4	49.1
	29.676	29.731	29.840	- 3.5	- 5.2	<b>— 6.9</b>	3.5	16.0	- 3.0	- 3.0	- 7.4	- 9.5	13.0
	29.470	29.234	29.326	+ 4.0	+ 23.5	+ 22.6	+ 4.0	- 9.9	+ 24.0	+ 30.2	+ 4.0	+ 10.2	40.1
	864.874	864.118	864.479	<b>—</b> 493.6	<del>-449.4</del>	-440.3	-332.3	-670.I	-369.9	-263.2	-638.2	-450.0	640.9
	29.823	29.797	29.810	15.5	15.2	— 23.8	— 11.5	23.1	- 12.8	- 9.1	- 22.0	- 15.5	22. I

Tabulation of daily meteorological observations at Teplitz Bay during the month of February, 1904—Continued Observer: Francis Long

								0367067		1015 170									
				Domare	PITATION	•							Wı	IND					
Davis	l			PRECII	PITATION				8	Вн			12	2H			2	он	
Date	8н	12H	20Н	Total	Character	Beginning	Ending	Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction
I	In00	In.	In.	In00		h m	h m	E	<i>Mi</i> . 4	Mi. 24	Б	E	Mi. 4	Mi. 15	NE	NE	Mi. 12	Mi. 17	E
2	.00	.00	.00	.00				E	8	24	E	ENE	21	30	ENE	SE	4	30	ENE
3	.00	.00	.00	.00				E	25	35	E	E	46	46	E	Ð	58	6о	E
4	.00	.00	.00	.00				E	44	59	E	Б	48	51	E	NE	5	58	E
5	т	T	.00	т	S <sup>d</sup>	7 30	8 15	NE	20	20	NE	NE	20	26	NE	E	40	41	E
6	.00	.00	.00	.00				NE	12	42	E	E	<b>3</b> 6	48	E	$\mathbf{E}$	10	48	E
7	.00	т	т	T	S <sup>d</sup>	11 00	12 30	NE	15	20	E	SE	5	16	E	E	ı	16	E
8	.00	.00	.00	.00				s	4	20	s	E	5	16	E	SE	30	48	SE
9	.00	.00	.00	.00				s	10	48	SSE	SE	3	24	SE	NE	3	24	SE
10	.00	.00	.02	.02	S <sup>d</sup>	15 40		w	15	17	W	w	17	17	W	sw	15	25	sw
11	.09	.05	T	.14	S <sup>d</sup>		12 45	N	8	29	N	NE	10	12	N	N	14	30	N
12	.00	.00	.00	.00				N	5	17	N	N	I	3	N	N	ı	5	N
13	.00	.01	.10	.II	S <sup>d</sup>	10 00	20 45	SE	16	16	SE	s	10	16	SE	sw	23	24	sw
14	.02	.05	.03	.10	Sa	1 00	16 45	sw	16	36	sw	sw	30	35	sw	NE	10	35	sw
15	.00	.00	.00	.00	•••			W	3	20	N	C	٥	10	W	E	6	19	E
16	.00	.00	.00	.00	•••			N	12	24	N	N	3	20	N	N	I	20	N
17	.00	.00	.00	.00	•••			SE	36	38	SE	SE	48	48	SE	SE	48	54	SE
18	.00	.00	.00	.00	•••			W	20	52	SE	w	16	20	W	W	8	24	W
19	.00	.00	.00	.00				E	I	14	W	G .	0	4	N	S	8	12	S
20	.00	.00	.00	.00				SE	48	63	SE	E	42	60	SE	s	12	60	SE
21	.00	.00	.00	.00				N	2	15	S	E	25	28	E	E	58	58	E
22	.00	.00	.00	.00				S	32	60	E	SE	48	50	SE	S	36	50	SE
23	T	T	.00	Т	Sd	7 00	9 00	NW	20	47	s	NW	15	24	NW	NE	8	24	NW
24	.00	.07	.01	80.	S <sup>d</sup>	9 30	14 30	SSE	50	66	SSE	SSW	36	48	SSE	W	18	48	ssw
25	.00	.00	.00	.00	•••	•• ••		W	20	29	w	W	20	24	W	NW	IO	25	W
26	.03	.10	.12	.25	S <sup>m</sup>	5 00	18 50	S	12	13	W	SE	12	17	S	W	24	28	W
27	.00	.00	.00	.00	•••			NW	15	48	w	NW	12	20	NW	S	3	20	NW
28	.02	T	.00	.02	S <sup>m</sup>	5 00	9 20	S	5	16	S	W	10	20	W	SE	I	20	W
29	.06	.15	.01	.22			•••••		52	60	E	s	36	56			II	56	
um	.22	.43	.29	.94	•••		•• ••	···	530	972		773	579	804			478	979	
[ean	•••	•••	•••	• • •	•••			E	18.3	33.5	Е	E	20.0	27.7	E	E	16.5	33.8	E

Tabulation of daily meteorological observations at Teplitz Bay during the month of February, 1904—Continued
Observer: Francis Long

		·			Cro	UDS					
		8н			12H			20H		s	_
DATE	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
ı	o			o			О			0	Lunar halo 21:10 to 22:00, 22 degrees.
2	10	s	E	10	s	E	{ Few	(Ci-S) S	E } SE }	7	
3	o	•••		Few	S	E	IO	s	E SE	ı	Drifting snow from 5:30.
4	I	s	E	{ 3	(A-S) S	E	10	S	NE	5	
5	10	N	NE	) 2 I0	s s	NE	0	•••		10	Variable winds; drifting snow 18:00 to 21:5
6	10	s	NE	4	S	E	0	•••		6	variable whites, drifting show 16.00 to 21.5
7	IO	s	E	10	N	SE	2	s	E	8	
8	o			o			0			o	Variable winds.
9	o	•••		О	• • •		o			0	
10	3 2	(A–S) S	SE {	9	s	w	10	N	sw	10	
11	10	N	N N	10	N*	NE	0			.7	Light fog 8:20 to 13:30.
12	о			o	•••		0	н		I	
13	3	s	SE	10	N	s	IO	N	sw	8	
14	10	N	sw	10	N	sw	10	s	NE	10	
15	10	s	w	9	s	w	0			7	
16	О	•••		o	н		0	•••		1	
17	10	S	SE	10	s	SE	10	S	SE	10	
18	{ 3 6	S–Cu S	W	3 4	S–Cu S	W }	0	•••		5	
19	О	•••		0	•••		o	H		o	Light haze 18:10 to 21:15.
20	10	s	SE	10	s	E	4	s	s	10	
21	10	s	N	{ 4 4	(A–S) S	E }	7	S	E	8	Drifting snow from 16:00.
22	10	s	s	{ 5 4	S–Cu S	SE {	10	s	s	10	Drifting snow.
23	10	N*	NW	Few	S–Cu	NW	o	•••		3	Light fog 6:30 to 22:00.
24	10	s	SSE	IO	N	ssw	2	S-Cu	w	9	
25	o			o		•••	o	•••	•••	o	
26	10	N	s	10	N	SE	§ 5	S–Cu S	W }	10	
27	Few	S-Cu	NW	Few	s	NW	10	s	s	3	
28	10	N	s	10	s	w	10	8	SE	10	
29	10	N	s	10	N	S	4	S-Cu	w	10	Light fog 9:30 to 16:00.
Sum	178			171	• • •	• • • •	121	•••	•••	169	
Mean	6.1	•••		5.9	•••		4.2	• • •		5.8	

Tabulation of daily meteorological observations at Teplitz Bay during the month of March, 1904

Observer: Francis Long

					READING O	T <sup>2</sup>		Self-rec	ISTERING	Fahrenh	eir Ther	MOMETERS	
Date	RED	UCED BARO	METER	FAHREN	HEIT THER	MOMETER	8	н	12H	20	он	Mean of	Range
	8н	12H	20H	8н	12H	20H	Max.	Min.	Max.	Max.	Min.	extremes	Range
	In.	In.	. In.	•	0	•					•		0
I	29.139	29.108	29.366	+ 22.9	<b>— 13.0</b>	- 9.0	+ 22.9	+ 12.2	+ 22.9	+ 22.9	- 9.0	+ 7.0	31.9
2	29.202	29.357	29.732	+ 9.9	- 9.2	— <i>2</i> 9.0	+ 10.0	- 9.0	+ 10.0	+ 10.0	- 29,0	- 9.5	39.0
3	30.212	30.209	1	- 34.0	- 31.0	- 9.0	_ 29.0	- 36.2	- 30.0	- 8.6	— 37.0	_ 22.8	28.4
. 4	29.411	29.550	29.982	— I2.0	15.0	24.0	+ 17.0	- 12.0	- 11.4	— I2.0	24,0	- 3.5	41.0
, 5	30.239	30.181	29.806	35.0	- 32.1	— IO.2	- 24.0	— 35.8	- 32.1	- 10.2	35.0	23.0	25.6
6	29.331	29.229	29.058	- 4.0	- 1.0	+ 1.0	- 4.0	— ii.5	+ 1.0	+ 1.5	- 4.0	- 5.0	13.0
7	29.013		•••	- 11.0	•••	- 17.0	+ 1.0	,I2.0		- 11.0	— I7.0	- 8.0	18.0
8		* * * * *	•••	- 19.0	•••	20.5	— I7.0	- 23.0	٠	- 19.0	23.5	- 20.2	6.5
9	••••		•••	- 18.5	•••	- 23.0	— 18.o	- 22.5	•••	— 18.5	23.0	<b>— 20.5</b>	5.0
10	•••			- 29.0		— 31.0	- 23.0	<i>— 2</i> 9.0	•••	- 28.5	- 31.5	27.2	8.5
11	•••	•••	29.441	— ī8.o		— 14.0	— I8.o	- 31.0	•••	- 12.9	— 18.0	- 22.0	18.1
12	29.476	29.519	29.649	<b>— 29.4</b>	36.0	45.0	- 15.0	- 33.0	— 29·4	- 29.4	<b>— 45.0</b>	- 30.0	30.0
. 13	29.670	29.681	1 :	- 44.0	- 43.0	- 44.0	— 41.0	<del>- 46.8</del>	— 42.9	- 43.0	— 46 <b>.</b> 0	- 43.9	5.8
14	29.720	29.735	29.719	- 37.0	- 40.0	- 42.2	- 34.0	,— ,44,0,	<b>—</b> 33⋅3	— 33·3	- 44.0	- 38.6	10.7
15	29.720	29.728	29.749	- 44.5	— 38.o	46.0	42.0	— .46 <b>.</b> 1.	- 37.5	— 37·5	— 48. <b>o</b>	<b>- 42.8</b>	10.5
16	29.792	29.794	29.797	— 50.2	45.0	- 43.2	— 46.o	- 51.4	- 44.0	- 41.2	— 50.2	- 46.3	10.2
. I7	29.703	29.624	29.542	— 42.I	- 37.4	— 42.6	<b>— 42.0</b>	46.8	37.0	— 35.6	— 42.7	- 41.2	11.2
18	29.675	29.680	29.679	— 49.0	- 42.8	- 28.9	- 42.6	- 50.0	— 41.0	— 28.9 	<b>— 49.0</b>	- 39.4	21.1
19	29.511	29.512	29.464	- 3.4	— <b>9.</b> 6	- 9.0	3.0	- 29.0	- 2.0	- 2.0	→ I2.4	- 15.5	27.0
20	29.571	29.605	29.274	— <u>3</u> 5.0	— 31.9	- 8.2	— g.o	— 35.o	- 31.5	- 8.0	— <b>36.0</b>	- 22.0	28.0
21	28.640	28.526	. 28.378	- 4.6	+ 2.0	+ 8.4	—. 4.0	8.9	+ 2.5	+ 8.4	- 4.6	- 0.2	17.3
22	28.504	28.616	28.893	- 3.0	- 4.0	— 13.2	+- 9.0	- 3.0	<b>— 1.0</b>	— I.O	— I3.2	_ 2.1	22.2
23	29.191	29.291	29.424	— 19.9	<b>— 24.3</b>	25.0	- 13.2	- 20.0	19.9	- 19.9	- 25.0	19.1	11.8
24	29.712	29.806	29.907	— <i>2</i> 7.8	— 30.9	— 37.0	- 25.0	- 28.0	— 27.8	27.8	— 37.0	- 31.0	12.0
25	29.760	29.725	29.763	— 32.9 :	28.5	<i>— 2</i> 0.0	— 32.0	— <b>39.</b> 0	— 28.0 ·	20.0	<b>— 32.9</b>	— 29.5	19.0
26	29.960	30.012	30.142	24.0	- 24.2	<b>— 22.9</b>	_ 20.0	- 30.0	- 21.9	- 21.8	- 25.6	- 25.0	10.0
27	30.438	30.443	30.173	- 29.0	27.0	— 6.1	- 22.9	- 30.0	— 26.0	— 6.o	— 30 <sub>4</sub> 9	- 18.4	24.9
28	29.560	29.488	29.301	+ 15.0	+ 23.8	+ 23.9	+ 15.0	— 6.o·	+ 24.0	+ 25.0	+ 15.0	+ 9.5	31.0
29	29.023	28.986	29.009	+ 25.5	+ 25.0	+ 10.0	+ 26.0	+ 22.0	+ 25.9	+ 25.9	+ 10.0	+ 18.0	16.0
30	29.575	29.771	30.054	. — 8.0	— 16.5	— 22.4	+ 10.0	— 8.o	— 8.0	— 8.o	- 23.6	- 6.8	33.6
· 3I	30.122	30.038	29.936	<u> </u>	<u> </u>	+ 5.0	<del>- 7.0</del>	25.0	<u> </u>	+ 5.0	<u> </u>	10.0	30.0
m	797.870	769.214	798.290	598.5	532.6	594.1	420.8	<i>—767.</i> 8	-421.3	-385.4	<del>-799.</del> 6	-589. <b>o</b>	617.3
ean	29.551	29.585	29.566	- 19.3	- 20.5	- 19.2	- 13.6	- 24.8	<u> </u>	- 12.4	- 25.8	<b>— 19.0</b>	19.9

Between March 7 and 11, 1904, observer was with party on trip to Cape Fligely; the thermometer readings during this interval have been taken from the thermograph records.

Tabulation of daily meteorological observations at Teplitz Bay during the month of March, 1904—Continued Observer: Francis Long

				Purcin	ITATION	,		-					-,-		W	IND		,			
_				I RECII		,					8	Вн			I	2H			2	он	erte)
Date	8н	12H	20H	Total	Character	Beginning	200	T 30 13	Emunig	Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction
	In.	In.	In.	In.		h	m	h	m		Mi.	Mi.			Mi.	Mi.					,
ı	.06	.12	.08	.26	Sm Sm	6 13	45 45	10	50} 30}	s	3	30	w	ENE	20	30	w	E	I	26	NE
2	.05	.01	.00	.06	S <sup>d</sup>	4	30	10	IO	$\mathbf{w}$	8	24	E	N	16	20	N	N	12	24	N
3	.00	.00	.00	.00	S <sup>m</sup>	23	00			SE	3	20	N	E	8	13	SE	SSE	68	72	SSE
4	.15	.06	.00	.21	S <sup>m</sup>			11	30	NW	36	63	SSE	NW	48	48	NW	NW	24	48	NW
5	.00	.00	.00	.00					••	NE	r	<b>2</b> 6	NW	E	I	2	N	SE	30	48	SE
6	.00	${f T}$	.00	${f T}$			••			SE	16	48	SE	E	3	20	SE ·	NE			•••
7	.00	• • • •	•••	•••			• •			E		•••	•••		•••						•••
8		•••	• • •	•••	•••		• •		••				• • •		•••	• • • •	•••	•••			
9		•••	•••		•••		••		••	• • • • • • • • • • • • • • • • • • • •	,	• • • •	•••	•••	•••		•••	•••			
10		•••	•••	•••		•••	••		••		ļ	•••	•••	•••	•••	• • • • •		•••			•••
11	•••	•••	$\mathbf{T}$	•••	S <sup>d</sup>	19	30	20	40	•••	; • • •	• • • •	•••	•••	•••	• • • •	•••	E	• • • •	•••	•••
12	Т	.00	.00	T	•••	••	••	•••	• •	N	15	20	N	E	2	20	N	C	0	20	N
13	.00	.00	.00	.00	•••	••	• •		• •	C	0	6	E	E	I	2	E	E	1	6	E
14	.00	.00	.00	.00	•••		• •	••	••	E	3	5	N	N	3	5	N	N	1	5	N
15	.00	.00	.00	.00	•••	••	••	••	••	SE	2	6	SE	E	6	12	E	NE	9	15	E
16	.00	.00	.00	.00	•••		••	••	••	N	I	3	N	C	0	3	N	E	3	5	E
17	.00	.00	.00	.00	~4	•••	••		••	NE	: I	4	E	C	0	5	NE	C	0	5	NE
18	.00	.00	.00	.00	S <sup>d</sup>	22	00			Q	0	0	C	N	1	2	N	S	I	5	NE
19	.14	.00	.02	.16	$\left\{\begin{array}{l}\mathbf{S}^{d}\\\mathbf{S}^{d}\end{array}\right.$	15 16	00 45	15 21	N.) 50} 10}	s	. 10	34	s	w	3	12	ន	ន	8	12	s
20	T	.00	.04	.04	S <sup>d</sup>	17	10		••	С	0	15	s	E	3	3	E	E	60	70	E
21	.60	.22	.14	.96	S <sup>d</sup>			17	50	E	60	72	E	E	60	72	E	SE	15	72	E
22	T	.04	.01	.05	S <sup>m</sup>	6	00	14	40	N	6	15	SE	NE	12	15	NE	NE	24	30	NE
23	.00	.00	.00	.00	•••				• •	NE	16	26	NE	NE	20	22	NE	N	28	30	N
24	.00	.00	.00	.00	• • • •		••		••	N	24	28	N	NW	20	26	N	NW	4	26	N
25	.00	.00	.00	.00	• • • •		••		• •	C	0	6	NW	C	0	I	N	E	16	16	E
26	.00	.00	.00	.00		••	• •		• •	N	10	25	E	C	0	15	N	N	5	16	N
27	.00	.00	.00	.00		••	••		••	NE	6	10	N	E	2	5	E	S	15	16	S
28	.15	.01	.07	.23	S <sup>m</sup>	13	30	9	05}	w	16	24	S	w	20	25	W	w	16	25	w
29	.22	.04	.25	.51	Sm Sm	14	 05	13 21	15} 15}	w	5	15	w	s	2	6	w	NW	12	16	NW
30	.04	.00	.00	.04	•••	•••	••		• •	NE	28	58	NE	NE	16	34	NE	E	8	34	NE
31	.00	.00	.00	.00	S <sup>m</sup>	21	15	<u>  · ·  </u>		SSE	10	12	SSE	SSE	10	12	SSE	SSE	II	15	SSE
Sum	1.41	.50	.61	2.52	•••		••				280	595			277	430	•••	•••	372	657	
Mean		•••	•••	•••		••	••		••	{NE}	10.8	22.9	N .	E	10.7	16.5	N	Ю	14.9	26.3	NE NE

Tabulation of daily meteorological observations at Teplitz Bay during the month of March, 1904—Continued

Observer: Francis Long

	11			7.4.				PRANCIS			11
					Cro	OUDS					
<b>D</b>		8н			12H			20H		- s	_
Date	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
I	ю	N*	s	10	S	NE	{ 5 2	(A-S)	E	9	Light fog to 10:50.
2	10	N*	w	10	s	N	0		•••	5	Light fog to 10:00; lunar halo 19:30 to 21:10.
3	Few	ន	E	Few	s	E	10	s	SSE	5	,
4	10	N	NW	10	s	NW.	10	s	NW	10	
5	0	•••		2	s	E	10	s	SE	4	
6	10	ន	SE	8	S	SE	10	s	SE	10	
7	4	&-Cu	E		•••		• • • •	•••	•••		Party left for north at 11:00.
8			•••	•••		•••	•••	•••	•••	•••	
9		•••						•••		•••	
10		•••	•••				•••	•••	•••	•••	
II		• • •				•••	10	N	E	8	Party returned at 17:00.
12	0	•••	•••	0		•••	0	•••	•••	0	
13	O	•••	•••	0	•••	•••	Few	S	SE	I	
14	0	•••	•••	0		•••	Few	S	SE	I	Variable winds.
15	Few	S	SE	0	•••	•••	0	•••	•••	0	
16	Few	S	SE	0	H		0	H	2777	0	Light haze from 9:00; water clouds over ice.
17	2	(A–S)	E	4	(A-S)H	E	2	S	NE	2	Light haze 9:00 to 14:00.
18	0			0	~		10	S*	S	2	
19	10	S	S	Few ∫	(A_S)	W SEL	10	N*	S	10	Light fog from 13:30.
20	0	•••		Few	(A-S) S H	SE }	10	Ŋ	E	7	Light fog to 1:00; solar halo 11:15 to 13:30.
21	10	N	E	10	N	E	10	ន	SE	10	
22	10	N	N	10	N*	NE	10	S*	NE	9	Light fog 8:50 to 22:00.
23	7	S	NE	{ 4 1	S–Cu S	NE }	10	S	N	7	Light drifting.
24	3	S-Cu	N	Few	S-Cu	E	o	•••	•••	0	Light drifting to 10:00.
25	0	•••		o	• • •	•••	0	• • •	•••	0	Party left for north at 10:00; solar halo 10:10 to 11:15.
26	0	•••		0	•••	•••	0	• • •	•••	0	10 11-15.
27	0	•••		Few	(A-S)H	10	10	ន	s	5	Party returned at 17:30.
28	10	N	W	10	s	W!	10	N	w	10	
29	10	N	IW!	10	N	ន	10	N	NW	10	
30	10	8	NE	Few	ន	E	0	•••	•••	5	Drifting snow to 4:00.
31	0	•••	•••	Few	(A-S)	'W'	10	8	SSE	5	1
Sum	116	•••	•••	89	•••	•••	159	•••	•••	135	
Mean	4.3			3.4		•••	5.9	•••	•••	5.0	

Tabulation of daily meteorological observations at Teplitz Bay during the month of April, 1904

Observer: Francis Long

					READING O	172	!	Self-re	GISTERING	Fahrenh	EIT THER	MOMETERS	
Date	RED	uced Baro	METER	FAHREN	HEIT THEF	MOMETER	8	н	12H	20	он	Mean of	Range
	8н	12H	20Н	8н	12H	20Н	Max.	Min.	Max.	Max.	Min.	extremes	range
	In.	In.	In.	0			0	. •	0				0
I	29.852	29.817	29.787	+ 18.5	+ 23.5	+ 24.0	+ 18.5	+ 5.0	+ 23.5	+ 25.0	+ 18.5	+ 15.0	20.0
2	29.692	29.646	29.612	+ 24.0	+ 24.3	+ 22.0	+ 25.9	+ 23.0	+ 24.5	+ 25.0	+ 22.0	+ 24.0	3.9
3	29.546	29.569	29.562	+ 24.0	+ 21.9	+ 22.0	+ 26.0	+ 21.0	+ 24.1	+ 24.1	+ 20.9	+ 23.4	5.1
4	29.548	29.602	29.520	+ 8.0	+, 2.9	+ 5.0	+ 22.0	+ 7.8	+ 8.0	+ 8.0	- 3.0	+ 9.5	. 25.0
5	29.229	29.287	29.438	+ 25.0	+ 3.0	- 18.0	+ 26.0	+ 5.0	+ 25.4	+ 25.4	— 18.o	+ 4.0	44.0
6	29.692	29.723	29.691	26.0	19.1	- 9.9	— 18.o	- 28.0	— 18.1	- 9.2	- 27.0	18.6	18.8
7	29.766	29.841	29.955	— 19.0	- 16.5	- 23.9	- 10.0	- 21.0	— 16.o	16.0	- 24.5	- 17.2	14.5
8	29.970	29.992	29.992	- 23.0	— 16.1	- 20.0	- 20.3	27.5	15.5	— 13.4	23.0	- 20.4	14.1
9	29.962	29.957	29.914	— 17.6	- 13.9	<b>— 19.4</b>	— 17.6	- 26.2	— 13.2	— 10.0°	- 19.4	— i8.i	16.2
10	29.790	29.725	29.610	- 15.0	— i2.0	- 9.8	— I5.0	- 22.1	- 11.0	- 8.3	- 15.0°	- 15.2	13.8
11	29.485	29.462	29.498	<b>— 15.0</b>	- 15.4	<b>— 26.0</b>	- 6.2	- 16.0	- 15.4	- 12.2	- 26.2	- 16.2	20.0
12	29.701	29.741	29.725	35-4	— 37.o	- 33.8	26.0	- 36.6	- 35.4	- 31.9	- 37.0	— šī.š	11.0
13	29.575	29.561	29.549	— 23.0	- 17.8	— i9.0	- 23.0	<b>— 33.8</b>	_ 17.6	17.4	- 23.0	- 25.6	16.4
14	29.475	29.485	29.485	- 17.4	16.8	27.0	- 17.0	_ 19.0	<b>— 16.6</b>	<b>— 16.6</b>	- 27.2	- 21.9	, ro.6
15	29.302	29.297	29.385	32.2	<b>— 32.9</b>	34.0	- 27.0	<b>— 36.3</b>	29.0	29.0	- 35.0	— 31.6	9.3
16	29.422	29.504	29.536	<b>— 14.9</b>	ro.o	— 6.o	- 14.9	- 34.0	— 10.0	— 5.1	- 14.9	- 19.6	28.9
17	29.484	29.465	29.477	— 4·5	- 4.0	5.0	<b>— 3.0</b>	6.0	- 3.1	+ r.o	- 10.2	<b>— 4.6</b>	11.2
18	29.571	29.625	29.860	- 13.2	<b>— 4.0</b>	- 23.6	- 3.8	— 13.4	- 3.7	- 3.7	- 23.6	- 13.6	19.9
19	30.096	30.085	29.799	— 26 <b>.0</b>	- 18.1	- 3.0	- 23.6	33.I	- 17.2	- 2.i	- 26.o	- 17.6	31.0
20	29.323	29.331	29.489	0.0	+ 1.6	+ 2.0	0.0	3.0	+ 2.0	+ 4.0	, 0.0	+ 0.5	7.0
21	29.557	29.521	29.563	+ 3.9	+ 4.0	+ 3.0	+ 6.2	— I.7	+ 5.0	+ 8:2	+ 3.0	+ 3.2	9.9
22	29.779	29.850	29.946	7.5	- 3.0	- 3.o	+ 3.0	- 8.5	_ 3.o	- 2.0	- 7.5	- 2.8	11.5
23	29.963	29.966	29.938	<b>—</b> 5.0	+ 1.0	4.o	<b>—</b> 3.0	— II.O	+ 2.0	+ 2.0	- 4.6	- 4.5	13.0
24	29.842	29.833	29.789	- ř.o	+ 3.9	- 4.0	0.0	- 6.1	+ 4.0	+ 4.0	<b>—</b> 4.3	_ 1.0	10.1
25	29.741	29.718	29.692	<b>—</b> 6.0	, 3.0	—. 6. <sub>5</sub>	- 4.0	— 7.8	- 2.8		- 6.5	- 5.3	5.0
26	29.704	<i>2</i> 9. <i>7</i> 05	29.688	16.5	— 16.o	— 16.7		18.5		- 12,8	- 18,0	12.5	12.0
27	29.594	29.585	29.554	15.0	13.2	— 19.o	· ·	<del>-</del> 21.0	- 12.8	8,9			.12.1
28	29.617	29.668	29.757	18.0	- 11.9	17.9	— 18.o	- 22.5	10.0	- 9.6.		— 16.0	12.9
29	29.909	29.951	30.042	— 16.0	<b>— 13.0</b>	— :14.0	15.8	21.4	.— 13.0	- 11.8	- 16.o	<b>— 16.6</b>	9.6
30	30.062	•••		— 12.2			- I2.2	<b>— 17.0</b>		'	•••	:	
Sum	890.249	860.512	.860.853	207,6	-2856	285.5	—170.I	-429.7	159.9	— 96 <b>:</b> 3	<del>-382.5</del>	<u>-265.8</u>	436.8
Mean	29.675	29.673	29.685	— g.2	<b>—</b> 7.2	- 9.8	- 5.7	<b>— 14.3</b>	- 5.5	- 3:3		- 9.2	15.1
				7:5	[ , , , ,	9.0	3.7			3.3.	13.2.	9.2	

Tabulation of daily meteorological observations at Teplitz Bay during the month of April, 1904—Continued Observer: Francis Long

										Server.											
				Dartera	-M - M-03-				İ						Wı	ND					
_				PRECIP	ITATION						8	н			12	SH			20	H	
Date	8н	12H	20H	Total	Character	Beginning		Ending		Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction	Direction	Velocity	Max. vel. since last obs.	Direction
	In.	In.	In.	In.	,	h	m	h s	m		Mi.	Mi.			Mi.	Mi.			Mi.	Mi.	
I	.08	.03	.00	.11	$\left\{\begin{array}{l} \mathbf{S^m} \\ \mathbf{S^m} \\ \mathbf{S^m} \end{array}\right.$	 9 20	30 50	6 3 10 4	30] 40} 30]	SSE	10	13	SSE	sw	11	12	sw	wsw	8	12	wsw
2	.14	.01	.09	.24	Sin Sin Sin	1 4 18	30 00 55	14	25) 15}	s	5	8	wsw	S	2	8	s	SE	5	8	SSE
3	. 22	.03	.08	•33	Sm Sm	 16	45		25} }	sw	6	12	SE	SSE	3	5	s	ssw	4	5	s
4	.12	.03	.06	.21	Sa Sa	15	 45	13 3	30} 15}	SE	4	5	s	SE	2	5	E	ESE	32	35	ESE
5	.01	.04	.00	.05	Sª	6	30	Į	55	sw	15	34	ESE	NW	12	24	WNW	Ń	16	24	WNW
6	.00	.00	.00	.00						NE	4	20	N	NW	ı	6	E	NE	6	25	E
7	.00	.00	.00	.00						E	2	17	E	E	2	4	NE	N	4	4	$\mathbf{N}\mathbf{W}$
8	.00	.00	.00	.00	• • • • • • • • • • • • • • • • • • • •		••			NE	1	4	NE	E	1	4	NE	E	3	6	N
9	.00	•00	.00	.00			• •	••		Ю	2	5	NNW	N	1	3	SE	NE	1	3	SE
10	.00	.00	.00	.00	•••		• •		••	Ю	2	6	NNE	E	1	2	N	N	2	6	N
11	.00	.00	.00	.00	•••		••		••	NE	20	30	NE	NE	24	36	NE	NE	12	36	NE
12	.00	.00	.00	.00	• • • •		• •		••	N	9	16	N	NW	6	12	N	W	6	12	N
13	.00	.00	.00	.00	•••	••	••	•••	••	,w	16	17	NNW	W	20	22	W	W	16	24	NW
14	.00	•00	.00	.00	•••	•••	••	••	••	W	15	20	wsw	W	12	15	W	N	3	15	W
15	.00	.00	.00	.00	•••	••	••		••	E	6	11	SE	N	10	15	N	SE	4	15	N
16	,00	.00	.00	.00		••	••	İ	••	S N	4	12	SSW	NE NE	11	15	SW	sw w	11	20 28	SW
17	.00	.00	.00	.00	• • • •	••	••		••	NE	23	24	N NE	S	5	12	NE	N	20		ENE
18	.00	.00	.00	.00	•••		••		••	N	11	24 15	N	NE	2 2	20	NW	ESE	15	20 32	NNW SE
19 20	.00	.00	.00	.00			••		• • •	ESE	60	61	ESE	E	52	66	E	E	30 48	66	E
21	.00	.00	.00	.00						ESE	38	48	E	E	36	1	E	SE	15.	42	ESE
22	.00	.00	.00	.00						NNE	15	20	ENE	s	] ]	_	SE	w	2	8	SE
23	.00	.00	.00	.00						Ð	2	5	N	C	0		SE	NE	5	10	N
24	.00	.00	.00	.00						SE	8	8	SE	E	2	1	SE	E	11	20	E
25	.00	.00	.00	.00						N	13	30	ENE	NNE	5		N	N	10	12	N
26	.00	.00	.00	.00						NW	12	15	N	w	8	]	NW	NW	8	12	NW
27	.00	.00	.00	.00						SE	2	8	NW	SE	5	6	SE	N	ı	6	SE
28	.00	.00	.00	.00						C	0	ı	N	C	0	1	NE	N	10	12	N
29	.00	.00	.00	.00						N	8	12	N	NW	6	8	N	NE			
30	.00	•••							• •	•••					•••	•••		•••			
Sum	•57	.14	.23	.94	•••		. • •	••	• •	•••	314	501			243	401	••••	***.	308	518	
Mean	••• ]	•••		•••	•••		••	• •	••	{ E }	10.8	17.3	N	E	8.4	1	NE	N	11.0	18.5	N

Tabulation of daily meteorological observations at Teplitz Bay during the month of April, 1904—Continued

Observer: Francis Long

					Сцоц	DS					
		8н			12H			20H		- s	
DATE	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
r	10	S*	SE	10	S	sw	10	S*	wsw	10	Light fog to 9:15 and from 19:30; grinding ice heard to west from 19:00 to 20:00.
2	10	N*	S	10	s	W	10	N*	SE	10	Light fog to 10:10 and from 19:00.
3	10	N*	sw	10	S	SE	10	N*	ssw	10	Light fog to 10:10 and from 16:10.
4	10	N*	S	IO	N	sw	10	N*	ESE	10	Light fog to 9:00; 13:15 to 20:40; ice moving out of bay at 19:30.
5	10	N	sw	3 2 2	Ci–S Ci–Cu S	$\left. egin{array}{c} \mathbf{W} \ \mathbf{W} \ \mathbf{W} \end{array}  ight\}$	0	•••		8	Ice came in at 5:30; open water south of Cape Auk at 7:30.
6	o	•••		Few	A-S	E	{ 5 4	A-S S	NE }	5	Ice moving out 8:45.
7	o	•••	•••	o		•••	I	A-S	N	ı	Open water 17:50 to 19:00.
8	0	•••		Few	Ci	N	Few	Ci	N	o	
9	3	A-S H	NE	{ I 4	Ci–Cu S H	NW W	6 1	A-S	NE }	5	
10	$\left\{\begin{array}{c} \mathbf{I} \\ 4 \\ \mathbf{I} \end{array}\right]$	Ci A-S S H	SE } SE }	{ 6 3	A-S S H	E }	10	S*	NE	8	Haze and fog all day.
11	0	•••	•••	Few	Ci–S	NE	o	*		I	Drifting snow; light fog from 13:00.
12	0	• • •		o	*		Few	S-Cu	• • • •	2	Drifting ice from north; generally foggy.
13	0	*		10	S*	w	4	S*	w	4	Ice drift to 6:00; fog from 5:00.
14	{ 5 5	A-S S*	W	Few Few	Ci S-Cu	N } N }	o	•••	•••	3	Ice opened 50 yards southwest one-eighth mile from shore; fog to 9:45.
15	0	• • •		О			o	• • •		0	from shore; fog to 9:45.
16	2	s	;W	{ 2 6	S-Cu S*	w }	10	S*	sw	7	Ice moving in from southwest, 3:00; light fog from 8:45.
17	Few 2 2	A-Cu S-Cu S	n N N	o	•••	•••	О	*		I	Light fog from 17:00; drifting snow.
18	3	S-Cu*	NE	o	*		o			2	Light fog to 15:50.
19	o	•••	•••	o	•••	• • •	10	S	ESE	4	Drifting snow from 16:00.
20	10	s	ESE	<b>3</b> 6	S–Cu S	E }	О	•••		5	Heavy drifting ice moving out during A. M.
21	{ 3 3	S-Cu S	ESE }	Few 3 3	A-Cu S-Cu S	E }	4	S-Cu	SE	5	Large lead half mile out; fog from 21:00.
22	0			{ 4 2	S-Cu S	SE }	ı	S-Cu	w	4	
23	Few	Ci-Cu	W	0	•••		5 3 1	A-Cu S-Cu S	NW NW NW	4	
24	{ 5 4	A–Cu S–Cu	SE SE	5 4	A–Cu S–Cu	E	5· 5	S–Cu S*	E	9	Light fog from 13:15.
25	10	S*	N	10	S*	NE	10	S	N	10	Light fog to 16:00.
26	ı	S	NW	2	S	N	Few	s	NW	2	1 200 20 20 20 20 20 20 20 20 20 20 20 20
27	Few	S-Cu H	•••	Few	S-Cu H	•••	О			I	Light haze 6:00 to 13:00.
28	0	• • •	• • •	0	• • •	•••	0			0	
29 30	3 0	S–Cu 	SE	Few	S-Cu	SE	Few	S-Cu	E		Observer left Camp Abruzzi for Cape Flora at 20:00.
Sum	117	•••	•••	121	•••		125	•••	•••	132	
Mean	3.9	•••		4.2	•••	4 * 4	4.3	•••		4.6	

## METEOROLOGICAL OBSERVATIONS

# TABULATION OF DAILY METEOROLOGICAL OBSERVATIONS

RECORDED AT

CAPE FLORA STATION, NORTHBROOK ISLAND
FRANZ JOSEF ARCHIPELAGO
MAY 21, 1904, TO JULY 30, 1905

NORTH LATITUDE: 79° 57'

LONGITUDE EAST OF GREENWICH: 49° 59'

Tabulation of daily meteorological observations at Cape Flora during the month of May, 1904

Observer: Francis Long

	A	Thorn D	3 £ rómpio		READING O	)F		Self-rec	GISTERING	FAHRENH	eit Theri	MOMETERS	
DATE	AN	EROID BARO	METER	FAHRE	инеіт Тнеі	RMOMETER	8	Вн	12H	20	он	Mean of	Range
	8н	<b>12H</b>	20H	8н	12H	20H	Max.	Min.	Max.	Max.	Min.	extremes	1 congc
	In.	In.	In.	.0	0	•	0		•		•		•
I	•••	. •••	•••			•••		•••		,		•••	•••
2	•••	•••		•••	,			•••					•••
3			. ``•••	•••		•••					•••	•••	•••
4			•••	•••		•••				* .	•••		• • •
. , 5	•••		•••			•••	•••	•••			•••	•••	•••
6	•••		•••				• • <sub>t</sub> • <sub>t</sub>	• • •,			, . • • •		• • •
· 7	•••	•••	•••			•••		•••			•••		•••
. 8			•••			•••	* ***				٠	···	•••
9		,				•••	•••		•••				•••
·IO							•••		•••	•••			•••
,11			ļ										• • •
. 12		·					**				•••		
13				ļ ,		•••					•••	• • • •	•••
14		****			•••	•••				•••	•••		•••
15	:			<b> </b>							•••		***
16				<b> </b>		•••					•••		
.17				<b> </b>						•••			
18													•••
19											•••		•
20				<b> </b>			• • • •				•••		•••
21	29.70	29.68	29.72	+ 16.5	+ 16.7	+ 18.0	+ 17.1	+ 13.2	+ 17.4	+ 19.0	+ 15.1	+ 16.1	5.8
22	29.70	29.62	29.60	+ 15.0	+ 17.0	+ 19.0	+ 19.0	+ 11.0	+ 18.0	+ 19.0	+ 1.0	+ 10.0	18.0
	11 '		29.84	+ 15.5	+ 16.3	+ 18.0	+ 19.0	+ 10.5	+ 16.3	+ 22.5	+ 12.2	+ 16.5	12.0
23	29.66	29.74	,	+ 16.5	+ 18.4		+ 18.0	+ 10.0	+ 19.0		+ 14.2		
24	29.87	29.90	30.05	11		+ 14.2		+ 11.0	:	+ 21.4	,	+ 15.7	11.4
25	30.20	30.20	30.20	+ 19.5	+ 20.0	+ 18.0	+ 20.0		+ 20.0	4	+ 17.9	+ 15.5	9.0
: <b>2</b> 6	30.14	30.08	30,006	+ 17.0	+ 18.5	+ 20.4	+ 18.0	+ 15.0	+ 18.8	+ 20.4	+ 16.6	+ 17.7	5.4
27	29.86	29.84	29.83	+ 29.0	+ 33.1	+ 34.1	+ 29.0	+ 20.0	+ 35.6	+ 35.6	+ 29.0	+ 27.8	15.6
28	29.84	29.84	29.75	+ 33.8	+ 34.4	+ 31.0	+ 34.1	+ 31.2	+ 35.0	+ 35.0	+ 30.6	+ 32.8	4.4
29	29.72	29.74	29.70	+ 33.0	+ 30.4	+ 25.0	+ 34.0	+ 31.0	+ 32.3	+ 32.3	+ 24.0	+ 29.0	10.0
30	29.72	29.74	29.81	+ 20.1	+ 20.5	+ 15.8	+ 25.0	+ 19.0	+ 20.5	+ 20.5	+ 15.0	+ 20.0	10.0
- 31	29.87	29.89	29.93	+ 20.5	+ 22.0	+ 22.5	+ 21.0	+ 14.7	+ 22.2	+ 24.5	+ 20.0	+ 19.6	9.8
Sum	328,20	328.27	328.44	+236.4	+247.3	+236.0	+254.2	+186.6	+255.1	+270.2	+195.6	+220.7	. 111.4
Mean	29. <del>8</del> 4	29,84	29,86	1 + 21.5	+ 22.5	+ 21.5	+ 23,1	+ 17.0	+ 23.2	+ 24.6	+ 17.8	+ 20.1	10.1

Tabulation of daily meteorological observations at Cape Flora during the month of May, 1904—Continued

Observer: Francis Long

				Domari						W	IND		
				PRECI	PITATION			81	<b>I</b>	12	н	20	H
Date	8н	12H	20H	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.
٠٠	In.	In.	In.	In.		h m	h m		Mi.		Mi.		Mi.
-· I	•••		•••	•••				•••	• • • •	•••	•••	•••	• • • • • • • • • • • • • • • • • • • •
2	•••	•••	•••	•••		•• ••		•••	•••	•••	•••	•••	•••
3	•••	•••	•••	•••	•••	••••		, •••	• • • •	•••	•••	•••	•••
4	•••	•••	•••	***	•••	** **	•• ••	•••	•••	•••	•••	•••	•••
5	••• ]	•••	•••	•••			· · · · ·	•••	• • •	• • •	•••	•••	•••
6	• • •	•••	•••	•••		•••		• • • •	•••	•••	•••	•••	•••
8	•••	•••	•••			•••••			•••	•••	•••	•••	•••
ا و		•••	7 -	•••		•••		•••	•••	•••		•••	•••
10		•••	• • •	* * *					• • •			•••	•••
11		•••							•••			,.,	
12		•••	,						•••			•••	• • •
13				•••									•••
14			•••	• • •				•••	• • • •		•••		•••
15		• • •		• • •						•••		•••	•••
16		• •••							• • • •	•••		•••	•••
17		•••		•••				• • •	•••	•••	• • •	•••	•••
18	•••	•••	•••	• • •				• • • • • • • • • • • • • • • • • • • •		•••	•••	• • •	•••
19	••••	•••	•••	•••				•••	•••	•••	•••	•••	•••
20	• • •		•••	• • •	•••			•••	•••	•••	•••	•••	•••
21	.00	${f T}$	Ť	${f T}$	S <sup>m</sup>	I 00 IO 30	6 30 }	E		NE	38	NE	108
22	.00	.00	.00	.00				NE	136	w	34	w	156
23	.00	.00	.00	.00				· <b>w</b>	228	WNW	· 75	E	119
24	.00	.00	.00	.00				NE	181	NE	42	NE	<b>7</b> 6
25	T	•00	${f T}$	${f T}$	Sm Sm Sm	7 45 17 00 20 50	9 30 18 10 24 00	SE	63	SE	40	SE	63
26	.00	.00	Т	T	S <sup>m</sup>	17 30 20 40	18 10 }	SSE	114	SE	39	ESE	94
27	.52	.02	T	•54	Sm Sm	15 28	10 35 }	ENE	197	sw	20	wsw	38
28	· <b>T</b>	т	•35	-35	•••	15 20		SE	42	SE	84	SE	54
29	.20	.00	.02	.22	Sm Sm Sm	4 40 11 25 15 18	5 00 14 10	w	104	w	15	w	58
30	.00	T	т	T	Sm Sm Sm	16 30 21 00	4 15 19 10	w	138	w	57	w	112
31	.01	т	.00	.01	S <sup>m</sup>	18 00	II IO }	w	111	wsw	15	w	31
Sum	-73	.02	-37	1.12				•••	1314	•••	459	•••	909
Meau			• • • •	•••	•••		••	w	131.4	w	41.7	w	82.6

Tabulation of daily meteorological observations at Cape Flora during the month of May, 1904—Continued Observer: Francis Long

					Стот	JDS			<u>-</u>		
		8н		<del></del>	12H			20H			
Date	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
I		***			***		•••		•••		
2				•••	•••	•••		•••			
3		•••		• • •	•••	***	• • •	•••		•••	
4	•••	•••		•••	•••	•••	•••	•••	•••	•••	
5	•••	•••		•••	•••	•••	•••	•••	•••	•••	
6		•••	•••	•••	•••	•••	•••	•••	•••	•••	
7	4	•••		•••	•••	•••	•••	•••	•••	•••	
8	•••	•••	•••	•••	•••	•••	• • •	•••	•••	•••	
9	•••	•••	•••	•••	•••			•••	•••	***	
10	•••	•••	•••		•••						
12					•••						
13					•••						
14					•••			•••			
15		•••			•••	•••					
16		***			•••	•••		• • •	•••	•••	
17		•••			•••			• • •	•••		
18			• • • •				•••	•••	•••		•
19		•••	•••		•••		•••	•••	•••	•••	
20		•••	• • •	··· ,	• • •	•••	• • • •	•••		•••	TH
21	10	s	E	ю	N	NE	4	S-Cu	NE	8	Fog to 11:30.
22	2	(Ci)	E	3 3	Ci–Cu S–Cu	W	6 3	S-Cu S	w }	6	
23	10	S-Cu	w	<b>3</b> 3	(Ci–Cu) S–Cu	W	4 2	(Ci–Cu) S–Cu	E } E }	5	
24	{ 3 { 4	·(A-Cu)· S-Cu	NE }	3	S-Cu	NE	ı	S-Cu	NE	4	
25	10	N	SE	10	S	SE	10	S	•••	9	
26	10	s		10	S		10	s	•••	10	Fog from 20:50.
27	10	N*	NE	10	8	sw	10	S	•••	10	Fog to 10:15.
28	{ 2 8	S–Cu S	SE }	10	s	SE	10	N*	SE	9	Fog from 15:10.
29	10	s	w.	5 5	(A-S)	W }	10	s	w	10	Fog to 12:40.
30	10	s	<b>W</b>	10	S	W'	10	N	W	10	
31	10	N		10	S		10	<u>s</u>	•••	10	
Sum	99			95			90	***	•••	91	
Mean	9.0	•••		8.6	•••	•••	8.2	•••		8.3	

Tabulation of daily meteorological observations at Cape Flora during the month of June, 1904

Observer: Francis Long

					Reading o	r		Self-re	CISTERING	Fahrenh	eit Theri	MOMETERS	<del></del>
Date	AN	eroid Baro	METER	FAHREN	негт Тне	RMOMETER	8	Вн	12H	2	он	Mean of	Range
	8н	12H	20Н	8н	12拍	20Н	Max.	Min.	Max.	Max.	Min.	extremes	Kange;
	In.	. In.	. In.		•	•	•	0	•	0	۰		0
I	29.98	29.96	29.92	+ 18.0	+ 18.0	+ 18.2	+ 22.8	+ 17.8	+ 21.4	+ 21.4	+ 17.0	+ 19.9	5.8
2	29.82	29.80	29.82	+ 27.0	+ 29.0	+ 30.0	+ 27.0	+ 17.8	+ 29.1	+ 31.0	+ 27.1	+ 24.4	13.2
3	29.88	29.90	29.92	+ 28.0	+ 27.0	+ 22.4	+ 31.0	+ 27.8	+ 28.0	+ 28.0	+ 21.2	+ 26.1	9.8
4	29.97	29.96	29.99	+ 24.5	+ 25.0	+ 24.0	+ 24.7	+ 21.2	+ 26.0	+ 27.1	+ 23.5	+ 24.2	5.9
5	29.96	29.95	29.95	+ 26.5	+ 28.0	+ 30.3	+ 26.5	+ 21.0	+ 30.0	+ 33.2	+ 27.0	+ 27.1	12.2
6	30.02	30.02	30.08	+ 30.6	+ 31.6	+ 28.0	+ 33.1	+ 27.0	+ 32.2	+ 32.2	+ 28.0	+ 30.0	6.1
7	30.17	30.19	30.22	+ 26.5	+ 27.6	+ 30.9	+ 28.0	+ 25.2	+ 28.6	+ 31.0	+ 25.0	+ 28.0	, 6 <b>.o</b>
8	30.19	30.17	29.99	+ 32.0	+ 33.0	+ 30.1	+ 33.0	4 28.0	+ 33.0	+ 33.0	+ 28.0	+ 30.5	5.0
9	29.90	29.85	29.70	+ 26.0	+ 32.4	+ 32.0	+ 30.1	+ 22.5	+ 32.4	+ 33.0	+ 26.0	+ 27:8	10.5
10	29.69	29.68	29.70	+ 32.0	+ 34.0	+ 32.0	+ 33.5	+ 31.0	+ 36.0	+ 36.2	+ 32.0	+ 33.6	5.2
11	29.70	29.72	29.74	+ 32.0	+ 33.4	+ 32.8	+ 32.4	+ 31.0	+ 34.8	+ 34.8	+ 31.0	+ 32.9	3.8
12	29.78	29.79	29.84	+ 35.0	+ 36.0	+ 32.1	+ 36.8	+ 32.0	+ 37.3	+ 38.0	+ 32.0	+ 35.0	6. <b>o</b>
13	29.77	29.70	29.62	+ 34.0	+ 35.0	+ 33.2	+ 35.8	+ 33.1	+ 35.7	+ 37.0	+ 33.2	+ 35.0	3.9
14	29.45	29.43	29.37	+ 31.5	+ 33.0	+ 32.0	+ 33.5	+ 29.5	+ 33.8	+ 33.8.	+ 31,0	+ 31.6	4-3
15	29.39	29.42	29.43	+ 32.6	+ 32.2	+ 30.0	+ 33.8	+ 30.5	+ 32.5	+ 32.8	+ 30.0	+ 31.9	3.8
16	29.52	29.55	29.66	+ 28.0	+ 30.0	+ 27.0	+ 30.3	+ 26.8	+ 30.5	+ 31.0	+ 27.0	+.28.9	4.2
17	29.67	29.68	29.64	+ 26.0	+ 26.0	+ 27.0	+ 27.5	+ 21.8	+ 27.5	+ 27.5	+ 25.0	+ 24.6	5.7
18	29.60	29.61	29.63	+ 30.5	+ 32.5	+ 31.0	+ 31.0	+ 25.5	+ 32.8	+ 32.8	+ 30.0	+ 29.2	7.3
19	29.74	29.76	29.86	+ 34.0	+ 36.0	+ 36.0	+ 34.0	+ 30.5	+ 36.0	+ 37.3	+ 34.0	+ 33.9	6.8
20	29.86	29.86	29.84	+ 42.0	+ 34.8	+ 38.0	+ 43.0	+ 34.0	+ 42.8	+ 43.0	+ 34.0	+ 38.5	9.0
21	29.86	29.86	29.87	+ 33.0	+ 38.o	+ 32.6	+ 39.4	+ 29.0	+ 39.0	+ 39.0	+ 32.0	+ 34.2	10.4
22	29.91	29.92	29.95	+ 41.0	+ 42.0	+ 35.0	+ 43.8	+ 30.0	+ 43.0	+ 47.3	+ 35.0	+ 38.6	17.3
23	30.08	30.10	30.18	+ 35.0	+ 36.6	+ 36.5	+ 35.0	+ 28.4	+ 37.7	+ 37.7	+ 34.0	+ 33.0	9.3
24	30.22	30.22	30.19	+ 32.0	+ 33.0	+ 37.0	+ 37.4	+ 3f.5	+ 33.0	+ 38.8	+ 32.0	+ 35.2	7.3
25	30.09	30.08	30.04	+ 32.3	+ 33.0	+ 32.0	+ 37.8	+ 29.0	+ 33.0	+ 33.0	+ 31.0	+ 33.4	8.8
26	29.98	29.98	29.94	+ 32.8	+ 34.2	+ 32.5	+ 35.0	+ 30.0	+ 34.8	+ 35.0	+ 31.0	+ 32.5	5.0
27	29.87	29.86	29.89	+ 34.0	+ 36.0	+ 32.8	+ 34.0	+ 29.8	+ 36.3	+ 39.0	+ 32.0	+ 34.4	, 9.2
28	29.86	29.85	29.80	+ 33.0	+ 32.8	+ 32.5	+ 33.5	+ 29.5	+ 34.0	+ 34.0	+ 31.0	+ 31.8	4.5
29	<i>2</i> 9. <i>7</i> 6	29.74	29.64	+ 33.5	+ 35.2	+ 37.0	+ 33.8	+ 30.0	+ 35.3	+ 40.4	+ 33.5	+ 35.2	10.4
30	29.59	29.60	29.48	+ 32.1	+ 34.0	+ 34.0	+ 40.5	+ 31.0	+ 34.0	+ 35.2	+ 32.0	+ 35.8	7.9.5
Sum	895.28	895.21	894.90	+935.4	+969.3	+938.9	+998.0	+832.2	+1000.5	+1033.5	+885.5	+937.2	216.2
Mean		29.84	29.83	+ 31.2	+ 32.3	+ 31.3	+ 33.3	+ 27.7		+ 34.5	+ 29.5	+ 31.2	7.2
	<u> </u>	1	]					<u> </u>	<u> </u>	3.3	, , ,		<u> </u>

Tabulation of daily meteorological observations at Cape Flora during the month of June, 1904—Continued Observer: Francis Long

				Drivtov	PITATION					W	IND		
				PRECII	PITATION			81	1	12	н	20	H
Date	8н	12H	20H	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.
1	In	In.	In.	In.	S <sup>m</sup>	h m 22 30	h m	ENE	Mi. 41	E	Mi. 40	E	Mi. 75
2	.15	.00	.02	.17	Sm Sm Sm	 15 32 10 10	7 30 19 15	E	202	E	65	SE	156
3	.10	${f T}$	.00	.10	Sm Sm	7 00	5 00 }	E	215	ESE	69	ENE	93
4	.00	.00	.00	.00	• • • •			ENE	70	E	25	NE	45
5	.02	T	.00	.02	S <sup>m</sup>	4 15	9 00	SE	<i>7</i> 5	NE	46	NE	125
6	.00	.00	.00	.00				SE	117	SE	51	SE	94
7	.00	.00	.00	.00	•••			SE	137	SSE	29	SE	22
8	.00	T	т	${f T}$	S <sup>m</sup>	11 19 22 28	12 20	w	47	sw	18	sw	. <b>58</b>
9	.04	.01	.02	.07	$\begin{cases} S^m \\ S^m \\ R \end{cases}$	9 30 15 00	6 30 } 12 50 } 16 50 }	sw	102	sw	44	w	87
10	.01	т	.00	.01		2 00 9 30 20 40	3 00 10 10 21 05	NW	99	E	21	w···	26
11	${f T}$	.00	.00	${f T}$	$\mathbb{S}^{m}$	10 20	10 40	SE	<i>7</i> 6	SE	31	E	85
12	т	.00	.00	T	S <sup>m</sup>	0 40 3 20	1 20 } 4 00 }	C ·	13	E	3	C	24
13	.00	.00	.00	.00	•••			ENE	65	B	57	ENE	184
14	.15	.06	.oı	.22	$S^m$	3 10	14 30	NE	289	NE	<b>7</b> 6	WNW	114
15	.04	T	.02	<b>.0</b> 6	Sm Sm Sm	6 10 13 40 18 15	9 00 15 00 	sw	135	NW	68	NW	162
16	.12	.01	T	.13	S <sup>m</sup>	 II 30	8 10 } 12 20 }	NW	271	WNW	97	w	162
17	.00	.00	.00	.00	• • •			NW	127	w	29	WNW	39
18	.00	т	т	т	$\left\{\begin{array}{c}\mathbf{S^m}\\\mathbf{S^m}\\\mathbf{R}\end{array}\right.$	11 30 12 35 23 40	11 40 13 10	SE	98	E	70	SE	166
19	. 10	.00	.00	.10	${f R}$		6 30	E	250	SE	81	E	120
20	.00	.00	.00	.00	•••			Þ	134	SE	<b>7</b> 6	E	112
21	.00	.00	.00	.00	••• ,	· · · ·		E	191	Е	63	SE.	108
22	.00	.00	.00	.00				w	22	W	26	E	40
23	.00	.00	.00	.00	•••	<sub>.</sub>		SE	154	SE	31	N	33
24	.00	.00	.00	.00	• • •			SE	57	SE	51	E	113
25	.00	.00	.00	.00	• • •			SE	263	SE	81	SE	110
25	.00	.00	T	T	$S^m$	10 10	12 40	W	111	sw	25	sw	67
27	.00	.00	.00	.00	•••			W	62	w	16	W.	38
28	.00	.00	.00	.00	•••			SE	6o	SE	50	SE	105
29	.00	.00	.00	.00	R	22 03	22 18	SE	133	SE	31	sw	42
30	.02	T	.04	<b>.o</b> 6	$\left\{\begin{array}{c}\mathbf{R}\\\mathbf{S^m}\\\mathbf{S^m}\end{array}\right.$	11 30 13 30 18 20	13 30 14 30	w	147	w	36	s	. 50
ın	•75	.08	.11	•94	•••		•••••	•••	3763	•••	1406		2655
ean		•••			•••			SE	125.4	SE	46.9	SE	88.5

Tabulation of daily meteorological observations at Cape Flora during the month of June, 1904—Continued

Observer: Francis Long

					CLO	JDS					
		8н			12H			20H		- "	
Date .	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
. 1	10	s		<b>5</b> 5 5	(A-S)	}	7	S-Cu	Œ	9	,
2	10	S	s		**	,	10	s	SE	10	Fog 10:00 to 12:40.
3	10	S*	E	10	S	ESE	10	S	ENE	IO	Fog to 9:10.
4	10	S	E	10	S ,	•••	3 6	S–Cu S	NE }	10	
5	10	N	NE	$\begin{cases} 2\\2\\2\end{cases}$	(Ci-S) (Ci-Cu) S-Cu	NE NE NE	9	s	E	6	
6	10	S*	SE	5 5	(A-S)	SE }	10	S*	. SE	10	Fog 5:00 to 9:30 and 17:00 to 22:00.
7	10	S		10	S*		or	S*		10	Fog from 11:30.
8	10	S		. 10	N	•••	10	S	sw	10	Fog to 1:10.
9	. 10	S	sw	10	S* :	sw	10	S	sw.	· 10	Fog 11:10 to 16:20.
10	10	S	NW	10	S		10	S	•••	10	
11	10	S	SE	10	S	SE	•••	**	•••	IO	Dense fog from 16:30.
12		**	•••		**		***	**	• • •	10	Dense fog.
13	10	s	NE	3 2 1	S-Cu S S	E } E }	10	s	ENE	8	Dense fog to 2:30.
14	10	N*	NE	10	N*	NE	{ 4 6	S-Cu S	NW }	10	Fog 3:10 to 14:30.
15	10	N*	sw	10	s	NW	10	N*	NW	10	Generally light fog.
16	10	N*	ww	10	N :	WNW	{ 4 4	S–Cu S	W }	8	Fog to 7:00.
17	{ 6 { 2	S–Cu S	NW }	10	s	w	10	s	WNW	10	
18	{ 3 3 3	(Ci–S) (A–Cu) S–Cu	w }	10	S	E	10	s	SE	9	
19	10	S	Ē	$ \begin{cases} 4 \\ 3 \\ 2 \end{cases} $	(A-Cu) S-Cu S	SE SE	Few	S-Cu	163	9	
20	0	•••	• • •	Few	S	NE	О	•••	• • •		Fog from 21:00.
21	0	•••	•••	0	•••	•••	.0	•••	•••		Fog to 4:20.
22	0			0			0		 NT		The same to Course the same is
23	10	S	SE	10	S*	SE	Few	S (Ci-Cu)	N E }	10	Fog 2:20 to 6:45 and 10:10 to 17:00.
24	•••	**	•••	•••	**	• • •	(Few	S	E	8	Fog 0:30 to 19:00.
25	10	S*	SE	• • • •	**	<u></u>	• • • •	**	•••	IO	Generally foggy.
26	10	S*	'W'	10	N* **	W		**	• • •	10	Fog 8:00 to 24:00.
27	•••	**	•••	70		SE	,	**	•••	10	Generally foggy.
28 29		S*	SE	10	S S*	SE	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	(Ci–Cu) S–Cu	sw }	8	Fog to 9:10 and from 17:00. Fog to 13:30.
30	10	s*	w	10	N*	w	10	S N*	SW J	10	Generally light fog.
Sum	225	,	• • •	211	••••	,	181	•••	•••	- 255	
Mean	8.7	•••	*** .	8.4			7.5	•••	,	9.4	10

Tabulation of daily meteorological observations at Cape Flora during the month of July, 1904

Observer: Francis Long

		_ :			Reading o	r <sup>2</sup>		Self-reg	ISTERING :	Fahrenhe	THERN	10METERS	
Dațe	Ani	eroid Baron	METER	FAHREN	HEIT THER	MOMETER	81	H	12H	20	)H	Mean of	Range
	8н	12H	<b>20</b> H	8н	12H	20H	Max.	Min.	Max.	Max.	Min.	extremes	
	In.	In.	In.	0	۰	0		. 0	•	0	o	۰	0
I	29.50	29.60	29.76	+ 35.0	+ 33.0	+ 32.0	+ 35.0	+ 31.5	+ 35.0	+ 35.0	+ 31.2	+ 33.1	3.8
2	29.82	29.86	29.86	+ 36.0	+ 37.5	+ 32.0	+ 37.3	+ 29.5	+ 37.5	+ 38.0	+ 30.0	+ 33.8	8.5
3	29.74	29.74	29.74	+ 33.0	+ 34.0	+ 33.5	+ 33.0	+ 29.5	+ 34.0	+ 34.0	+ 32.0	+ 31.8	4.5
4	29.78	29.78	29.91	+ 33.0	+ 33.6	+ 36.0	+ 33.9	+ 32.0	+ 33.6	+ 37.0	+ 32.0	+ 34.5	5.0
5	29.97	29.97	29.93	+ 35.7	+ 37.0	+ 33.0	+ 36.5	+ 32.5	+ 39.3	+ 40.0	+ 32.0	+ 36.0	8.0
6	29.84	29.81	29.76	+ 30.8	+ 34.0	+ 33.1	+ 33.2	+ 28.0	+ 34.0	+ 36.0	+ 30.8	+ 32.0	8.0
7	29.63	29.57	29.52	+ 36.0	+ 35.0	+ 34.0	+ 36.5	+ 32.0	+ 36.0	+ 36.0	+ 34.0	+ 34.2	4.5
8	29.57	29.60	29.67	+ 34.4	+ 35.5	+ 39.0	+ 34.8	+ 32.5	+ 35.5	+ 43.0	+ 34.4	+ 37.8	10.5
9	29.71	29.72	29.73	+ 40.3	+ 39.0	+ 37.5	+ 40.5	+ 31.2	+ 40.8	+ 43.0	+ 37.5	+ 37.1	11.8
10	29.75	29.74	29.64	+ 35.0	+ 37.5	+ 33.0	+ 40.0	+ 29.0	+ 37.5	+ 37.5	+ 33.0	+ 34.5	11.0
11	29.63	29.69	29.69	+ 36.5	+ 37.0	+ 35.5	+ 37.0	+ 32.8	+ 38.0	+ 42.8	+ 35.0	+ 37.8	10.0
12	29.63	29.58	29.58	+ 35.0	+ 34.0	+.33.3	+ 36.0	+ 32.0	+ 35.0	+ 35.5	+ 33.0	+ 34.0	4.0
13	29.60	29.61	29.62	+ 34.0	+ 35.6	+ 33.0	+ 34.8	+ 31.2	+ 36.9	+ 37.0	+ 33.0	+ 34.1	5.8
14	29.65	29.66	29.72	+ 35-5	+ 37.0	+ 33.5	+ 36.5	+ 32.0	+ 38.0	+ 38.0	+ 33.0	+ 35.0	6.0
15	29.75	29.74	29.59	+ 36.8	+ 34.4	+ 33.0	+ 38.0	+ 32.4	+ 36.8	+ 39.0	+ 32.5	+ 35.7	6.6
16	29.44	29.38	29.33	+ 39.5	+ 37.0	+ 35.0	+ 40.0	+ 26.0	+ 39.5	+ 39.5	+ 33.0	+ 33.0	14.0
17	29.24	29.28	29.44	+ 34.5	+ 33.5	+ 33.0	+ 35.4	+ 33.0	+ 35.0	+ 35.0	+ 33.0	+ 34.2	2.4
18	29.60	29.66	29.74	+ 36.0	+ 38.4	+ 43.5	+ 36.0	+ 32.0	+ 38.4	+ 44.7	+ 35.0	+ 38.4	12.7
19	29.85	29.86	29.87	+ 43.0	+ 45.5	+ 42.1	+ 47.0	+ 40.0	+ 47.1	+ 54.0	+ 40.0	+ 47.0	14.0
20	29.90	29.89	29.88	+ 40.0	+ 41.8	+ 42.0	+ 42.1	+ 37.0	+ 43.0	+ 51.0	+ 39.0	+ 44.0	14.0
21	29.78	29.75	29.70	+ 40.8	+ 41.0	+ 35.0	+ 42.0	+ 31.5	+ 41.8	+ 41.8	+ 34.0	+ 36.8	10.5
22	29.67	29.66	29.65	+ 30.0	+ 32.5	+ 30.5	+ 35.0	+ 30.0	+ 32.5	+ 33.0	+ 29.0	+ 32.0	6.0
23	29.56	29.54	29.49	+ 32.5	+ 34.0	+ 33.4	+ 33.0	+ 27.2	+ 34.5	+ 35.8	+ 29.4	+ 31.5	8.6
24	29.34	29.43	29.52	+ 32.5	+ 32.0	+ 35.0	+ 36.0	+ 25.0	+ 33.1	+ 39.0	+ 29.0	+ 32.0	14.0
25	29.54	29.58	29.54	+ 34.0	+ 36.5	+ 33.5	+ 35.0	+ 33.5	+ 37.9	+ 37.9	+ 33.0	+ 35.4	4.9
26	29.55	29.57	29.66	+ 34.5	+ 35.0	+ 35.0	+ 35.0	+ 33.2	+ 35.4	+ 35.9	+ 33.5	+ 34.6	2.7
27	29.63	29.63	29.61	+ 40.1	+ 34.5	+ 39.5	+ 43.0	+ 33.5	+ 41.0	+ 41.0	+ 33.2	+ 38.1	9.8
28	29.54	29.56	29.63	+ 38.0	+ 36.3	+ 35.0	+ 40.0	+ 34.0	+ 38.0	+ 40.0	+ 33.5	+ 36.8	6.5
29	29.70	29.74	29.76	+ 36.0	+ 34.8	+ 34.0	+ 37.0	+ 33.5	+ 37.0	+ 43.0	+ 34.0	+ 38.2	9.5
l l	29.80	29.83	29.90	+ 34.0	+ 38.0	+ 33.4	+ 34.6	+ 29.5	+ 38.0	+ 42.1	+ 33.0	+ 35.8	12.6
30		29.98	29.99	+ 34.0	+ 34.0	+ 32.0	+ 34.5	+ 32.9	+ 34.4	+ 34.5	+ 31.0	1.	3.5
31	29.97	920.0I	920.43	+1106.4	+1118.9	+1083.3	+1148.6		·	+1220.0	·   <del> </del>	- <del> </del>	253.7
Sum	919.68	29.68	29.69	+ 35.7	+ 36.1	1	+ 37.1	+ 31.6	Ì	1	1	+ 35.5	1
Mean	29.67	29.00	29.09	33.7	, , ,,,,,,		1	1.5-10	1, 3, 12	05.4	), 00	1, 00:00	· .

Tabulation of daily meteorological observations at Cape Flora during the month of July, 1904—Continued Observer: Francis Long

				Thomas						W:	IND		
				PRECIF	TATION			81	f	12	H	20	) Н
Date	8н	12H	20Н	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.
	In.	In.	In.	In.		h m	h m		), Mi.		Mi.	34. 1	Mi.
ı	T	.00	.00	Т	$S^{m}$	••	21 00	w	94	NW	86	$\mathbf{N}\mathbf{W}$	186
2	.00	.00	.00	.00	•••			WNW	147	· <b>W</b>	42	W	67
3	.02	T	т	.02	{ S <sup>m</sup> R	11 10 1 08	9 00 }	N	116	NW	46	NW	111
4	.00	.00	.00	.00	${f R}$	** **	0 40	NW	125	NW	33	W	47
5	.00	.00	.00	.00	•••			NW	33	W	14	8	31
6	.00	.00	.00	.00	•••			w	39	W	13	ENE	30
7	.02	.01	.04	.07	$\left\{\begin{array}{c} \mathbf{R} \\ \mathbf{R} \end{array}\right.$	I 04 8 45	2 35 }	ESE	32	ESE	38	NE	38
8	.01	.00	.00	.01	${f R}$		21 40	NW	65	NW	60	NE	87
9	.00	.00	.00	.00	•••			s	23	WNW	14	8	32
ю	.00	.00	.02	.02	$\mathbf{R}$	14 55	17 10	$\mathbf{w}$	45	w	-14	N	33
11	.00	.00	.00	.00	•••			NNW	166	NW	55	NW	59
12	.00	.00	.02	.02	${f R}$	15 15	18 30	NW	67	NW	35	NW	67
13.	.00	.00	.00	.00	• • •		•• ••	NW	8o	NW	25	NW	42
14	.00	.00	Т	${f T}$	•••			SE	41	SE	17	SE	101
15	.00	.00	.00	.00	• • •		••••	NW	119	NW	47	N	162
16	.10	.05	.16	.31	$\left\{\begin{array}{c} \mathbf{R} \\ \mathbf{R} \\ \mathbf{R} \end{array}\right.$	0 48 10 40 19 00	6 15 14 15	NE	238	NE	102	NE	246
17	•25	.01	.03	.29	$\left\{ egin{array}{c} \mathbf{R} \\ \mathbf{R} \\ \mathbf{R} \end{array}  ight.$	10 00 13 30	6 15 11 30 21 40	ESE	273	ESE	125	ESE	242
18	.01	T	.00	10.	R	10 40	11 10	E	204	E	47	ESE	101
19	.00	.00	.00	.00	•••			N	160	NW	10	SE	16
20	.00	.00	.00	400	•••			SSE	29	w	12	SE	25
21	.00	.00	.00	.00	• • •		**. **	E	23	C	10	SSE	25
22	.00	.00	.00	.00	,S <sup>m</sup>	22 10		W	40	S	16	ESE	26
23	.01	.00	.00	10.	S <sup>m</sup>		1 30	C	42	SW	18	N	36
24	.00	.00	.00	.00	{ R R	17 55 19 30	18 15 }		257	NE	163	E	177
25	T	.00	.00	T	•••	••, ••		SE	241	SE	. 57	ESE	. 112
26	.00	.00	.00	.00	•••			ESE	159	ESE	61	С	83
27	.01	.02	.30	•33	R	5 00	••••	NE .	40	NE	62	NE	154
28	.20	T	.00	.20	R		8 55	W	87	W	20	NW	72
29	.00	.00	.00	.00	···	-6	-0	N	117	8	15	W	26
30	.00	.00	T	Т	S <sup>m</sup>	16 00	18 00	W	40	C	9	NW	34
31	.00	.00	.00	•00				NW .	63	sw	13		42
Sum	.63	.09	-57	1.29	•••				3205		1279	•••	2510
Mean			•••					NW	103.4	NW	41.3	NW	81.0

Tabulation of daily meteorological observations at Cape Flora during the month of July, 1904—Continued Observer: Francis Long

					Сцот	JDS					
		8н			12H			20H		"	
Date	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
I	§ 6	S-Cu S	w	6 2	S-Cu S	NW NW	4 4	S-Cu S	NW }	8	
2	5 4	S–Cu S	NW NW	5 4	S–Cu S	VV! }	10	s	w	10	Fog from 20:45.
3	10	N**	N	10	N**	NW	10	8	NW	10	Fog to 18:10.
4	10	S*	NW	10	S*	NW	{ 6 { 4	S–Cu S	W }   W }	10	Fog 2:15 to 13:20 and from 23:00.
5 6	10	S S*	NW W	10	* S*	 W	5 10	8*   8	S NE	7	Generally light fog. Fog to 14:50.
7	10	s	E	10	Ŋ	E	10	N	NE	10	10g to 14-50.
8	{ 3 6	S-Cu S	NW NW	5 4	S–Cu S	NW }	$\begin{cases} 3 \\ \text{Few} \\ 2 \end{cases}$	(Ci–S) (A–Cu) S–Cu	NE ) NE } NE }	5	
9	0 2	(A-Cu)	   ₩ }	Few	(A-Cu)	NW	0	•••	•••	0	
10	(Few	S	w	9	8	W	10	s	N	7	Fog from 20:30.
11	5 4	S–Cu S	NW NW	5 4	S-Cu S	NW I	Few	S-Cu	NW	5	Fog to 5:20 and from 23:00.
12	10	S S*	NW NW	10	S*	NW NW		** S*	NW!	10	Generally foggy. Fog to 21:00.
13 14	10	S*	SE	10	S*	SE	10	N*	SE	10	Fog 1:30 to 20:50.
15	2 2 4	(Ci-S) (Ci-Cu) S	NW NW NW	3 2 Few	(Ci-S) (Ci-Cu) S-Cu	E } E NW	{ 3 6	S-Cu S	N }	9	
16	10	S	NE ESE	10	N S	NE ESE	10	N	NE	10	High northeast gale from 9:30.
17	10	s s	SE	10 3 6	S-Cu S	E	10 { 2 2	N* (Ci-S) (Ci-Cu)	NE NE	10	High east-southeast gale; fog from 12:30. Fog to 7:00.
19	Few	(Ci-Cu) (A-Cu)	N N	Few   Few	(Ci-Cu)	NW NW	7 2	S-Cu S-Cu S	NE J	2	
20	I   I   2	S-Cu (Ci-Cu) (A-Cu)	N J N N	{ 4 2	(A-Cu) S-Cu	W }	Few	s	N	4	
21	Few 4 2	S-Cu (A-Cu) S-Cu	W }	Few 2	(Ci-S) (A-S)	W	}	**		6	Fog from 17:00.
22	10	S*	w	10	S*	w j	10	s	SE	10	Generally foggy.
23	10	S	•••	10	S (Cl. Cl.,)	E NE ]	Few	S	SE	4	Fog to 4:30.
24	{ 4 4	S-Cu S	NE }	{ 4 3	(Ci-Cu) S-Cu S	NE NE	10	N*	E	10	Fog from 16:30.
25	10	S*	SE	{ 4 6	S–Cu S	SE	10	s	ESE	10	Fog to 9:30.
26	10	S	ESE NE	10	s N*	ESE NE	10 10	S N	NE	10 10	Fog 11:00 to 12:40.
27 28	10 5	N (A-S)	w ≀	10	S*	W	10	s	NW	10	Fog 11:50 to 13:00.
29	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	S (Ci-S)	W S	{ 2 3	(Ci-Cu) (A-S)	W )	10	s	w	4	
	Few 2	S (Ci-Cu)	1007 }	[ 2	S (Ci–S)	NW NW NW	10	s		4	
30	Few	S-Cu	w }	4 2	(A–Cu) S	NW J		**			5 ( ( 5 )
31		**			**					10	Dense fog from 7:00.
Sum Mean	238 7.9	•••	***	234 8.1	•••		7·9	• • •	•••	7.8	;

Tabulation of daily meteorological observations at Cape Flora during the month of August, 1904

Observer: Francis Long

					READING O	r		SELF-REG	SISTERING	Fahrenhi	eit Theri	MOMETERS	
Date	ANI	ROID BARON	METER		HEIT THER		8	н	12H	20	он	Mean of	Danie
	8н	12Н	20H	8н	12H	20H	Max.	Min.	Max.	Max.	Min.	extremes	Range
	In.	In.	In.	۰	٥	۰				۰			۰
I	29.91	29.90	29.83	+ 35.0	+ 34.0	+ 30.0	+ 35.0	+ 30.0	+ 36.0	+ 36.0	+ 30.0	+ 33.0	6.0
2	29.60	29.58	29.43	+ 33.5	+ 33.4	+ 33.2	+ 33.5	+ 30.0	+ 33.5	+ 34.0	+ 32.6	+ 32.0	4.0
3	29.37	29.30	29.27	+ 34.5	+ 34.5	+ 33.0	+ 35.5	+ 33.0	+ 34.5	+ 35.0	+ 33.0	+ 34.2	2.5
4	29.29	29.36	29.50	+ 30.5	+ 30.4	+ 29.0	+ 33.0	+ 30.0	+ 30.5	+ 32.8	+ 29.0	+ 31.0	4.0
5	29.49	29.50	29.52	+ 33.0	+ 34.0	+ 33.6	+ 33.0	+ 27.0	+ 34.0	+ 34.4	+ 32.4	+ 30.7	7.4
6	29.60	29.67	29.67	+ 35.0	+ 36.5	+ 40.0	+ 35.0	+ 33.0	+ 36.8	+ 41.0	+ 35.0	+ 37.0	8.0
7	29.80	29.84	29.82	+ 36.0	+ 39.0	+ 36.5	+ 40.0	+ 33.6	+ 40.0	+ 42.3	+ 36.0	+ 38.0	8.7
8	29.71	29.65	29.54	+ 35.0	+ 33.1	+ 35.0	+ 36.5	+ 34.0	+ 35.0	+ 35.0	+ 33.0	+ 34.8	3.5
9	29.56	29.58	29.64	+ 34.0	+ 36.0	+ 35.0	+ 35.1	+ 33.0	+ 36.8	+ 38.0	+ 34.0	+ 35-5	5.0
10	29.78	29.84	29.93	+ 34.0	+ 37.0	+ 37.0	+ 36.0	+ 27.5	+ 37.4	+ 41.4	+ 34.0	+ 34.4	13.9
11	29.91	29.88	29.84	+ 40.0	+ 40.5	+ 38.0	+ 42.0	+ 34.0	+ 42.1	+ 43.2	+ 38.0	+ 38.6	9.2
12	29.84	29.83	29.81	+ 35.0	+ 36.9	+ 37.0	+ 40.0	+ 33.8	+ 37.1	+ 41.1	+ 34.0	+ 37.4	7.3
13	29.84	29.90	30.04	+ 35.0	+ 35.0	+ 31.0	+ 37.0	+ 34.0	+ 35.0	+ 35.0	+ 31.0	+ 34.0	6.0
14	30.26	30.28	30.24	+ 32.5	+ 35.0	+ 33.0	+ 35.0	+ 28.0	+ 36.8	+ 38.1	+ 32.0	+ 33.0	10.1
15	30.12	30.12	30.10	+ 37.0	+ 43.5	+ 39.0	+ 39.2	+ 30.0	+ 44.0	+ 47.8	+ 37.0	+ 38.9	17.8
16	30.06	30.04	30.00	+ 38.0	+ 43.0	+ 36.0	+ 40.0	+ 32.0	+ 43.0	+ 45.0	+ 36.0	+ 38.5	13.0
17	29.99	29.98	29.97	+ 38.0	+ 38.0	+ 39.0	+ 38.6	+ 35.0	+ 39.0	+ 46.0	+ 38.0	+ 40.5	11.0
18	29.95	29.95	29.94	+ 36.5	+ 37.4	+ 35.0	+ 40.0	+ 31.0	+ 41.2	+ 41.2	+ 35.0	+ 36.1	10.2
19	29.95	29.96	29.96	+ 35.0	+ 36.9	+ 34.0	+ 36.2	+ 33.9	+ 38.0	+ 38.0	+ 34.0	+ 36.0	4.1
20	29.94	29.90	29.95	+ 36.0	+ 35.1	+ 33.5	+ 36.0	+ 32.0	+ 36.0	+ 36.0	+ 32.9	+ 34.0	4.0
21	29.99	30.00	30.02	+ 30.0	+ 31.0	+ 30.8	+ 33.9	+ 28.9	+ 31.0	+ 32.2	+ 29.0	+ 31.4	5.0
22	30.09	30.14	30.17	+ 33.0	+ 33.5	+ 34.5	+ 33.0	+ 29.0	+ 34.0	+ 38.9	+ 31.2	+ 34.0	9.9
23	30.22	30.25	30.26	+ 36.0	+ 37.0	+ 33.8	+ 40.0	+ 34.0	+ 40.0	+ 41.0	+ 33.0	+ 37.0	8.o
24	30.24	30.22	30.19	+ 33.5	+ 36.0	+ 32.0	+ 33.8	+ 27.0	+ 37.0	+ 45,0	+ 32.0	+ 36.0	18.0
25	30.15	30.13	30.06	+ 30.0	+ 36.5	+ 33.0	+ 32.0	+ 24.1	+ 36.5	+ 42.8	+ 30.0	+ 33.4	18.7
26	30.04	30.00	30.04	+ 30.0	+ 29.0	+ 29.5	+ 33.0	+ 25.0	+ 31.0	+ 31.8	+ 25.0	+ 29.0	8.0
27	30.10	30.14	30.16	+ 29.0	+ 33.0	+ 30.0	+ 29.5	+ 28.0	+ 33.2	+ 34.0	+ 29.5	+ 31.0	6.0
28	30.21	30.23	30.28	+ 31.0	+ 29.1	+ 26.0	+ 31.0	+ 29.0	+ 32.1	+ 32.1	+ 26.0	+ 29.0	6.1
29	30.30	30.30	30.27	+ 24.0	+ 24.0	+ 21.5	+ 26.0	+ 20.5	+ 24.0	+ 25.0	+ 21.5	+ 23.2	5.5
30	30.26	30.26	30.28	+ 30.0	+ 31.0	+ 32.0	+ 30.1	+ 19.0	+ 31.0	+ 32.0	+ 29.5	+ 25.5	13.0
31	30.22	30.16	29.98	+ 32.0	+ 32.8	+ 27.0	+ 32.0	+ 30.0	+ 32.8	+ 32.8	+ 27.0	+ 29.9	5.8
Sum	927.79	927.89	927.71	+1042.0	+1082.1	+1027.9	+1090.9	+929.3	+1109.3	+1168.9		+1047.0	259.7
Mean		29.93	29.93	+ 33.6	+ 34.9	+ 33.2		+ 29.7		+ 37.7	-		8.4
		1 3.30	1	1 33.9	1 ', 07'9	]   33,2	33.2	29.7	F 33.0	3/./	+ 32.0	+ 33.8	0.4

Tabulation of daily meteorological observations at Cape Flora during the month of August, 1904—Continued Observer: Francis Long

				Dana	PITATION					W	IND		
				FRECIE	TIATION			81	I .	12	н	20	н
DATE	8н	12H	20H	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.	Direction	Wind mov.
	In.	In.	In.	In.		h m	h m	a	Mi.	OTIT	Mi.	SE	<i>M</i>
I   2	.00	.00	.00	.00	∫ S <sup>m</sup>	5 00	7 00 }	S SE	52	sw E	14	E E	ļ
2	.02	10.	.04	.07	) R	7 00	{	SE	179		77	,	15
3	.40	.12	T	•52	R R	13 45	12 40 {	E	193	ese	64	SE	
4	.50	.04	00	•54	S <sup>m</sup>	0 30	11 10	NW	71	NW	86	W	I
5	T	T	.02	.02	{ S <sup>m</sup> R	10 10 20 30	20 30 }	NE	98	ESE	40	ESE	. 11
6	.01	.00	.00	.01	••• :			ESE	212	ESE	64	NE	13
7	.00	•00	.00	.00			••, ••	SE	287	ESE	40	SÐ	13
8	.00	.04	т	.04	Sm Sm Sm	9 20 18 50 20 55	12 40 19 46	NE	206	WNW	91	ENE	12
9	.04	•00	.00	.04	S <sup>m</sup>		3 00	SE	141	SE	28	, <b>a</b>	
10	.00	.00	.00	.00	•••			SE	39	SSE	36	С	3
11	.00	.00	.04	.04	R	13 35	17 30	NE	89	· B	98	E	25
12	.00	${f T}$	.00	T	R	9 40	9 55	SE	200	NE	22	N	2
13	.15	.02	.01	.18	{ R R	0 I5 17 00	9 00 {	SSE	174	SSE	47	w	7
14	т	.00	.00	Т	•••			SE	46	SE	79	SE	ç
15	.00	•00	.00	•00	•••			E	33	SE	8	C	2
16	.00	.00	.00	.00	•••			NE	14	C	7	N .	1
17	.00	.00	.00	.00				s	20	SSE	14	C	
18	.00	.00	T	${f T}$	} R R	17 00 21 30	17 20 { 22 20 }	E	21	SE	31	SE	
19	.03	.00	.00	.03	R	20 15	21 30	·C	27	E	8	SE	
20	.25	.02	.00	.27	R	4 00	9 20	SE	202	E	70	E	1,
21	.00	.00	.00	.00	•••			ESE	161	E	41.	NE.	1
22	.00	.00	.00	.00	•••			NE	162	SE	47	NE	
23	.00	.00	.00	.00	• • •			. S.W	205	SE	15	SE	
24	.00	.00	.00	.00	•••		••••	SE	26	W	4	W	
25	.00	.00	.00	.00	•••		•• ••	E	12	O	8	C	
26	.00	.00	۰00	.00	•••	••••		10	34	E)	55	E	1
27	.00	.00	.00	.00	* * *	••••	•••	E	271 100	e Se	88	E)	1
28	.00	.00	.00	.00	( S <sup>d</sup>	10 35	13 00 ]	12	100	212	39	111	
29	.00	Т	T	T	S <sup>d</sup>	14 00 15 35	14 20 16 00	E	79	ESE	48	SE	
30	.03	.04	.01	.08	$\left\{\begin{array}{c} \mathbf{S^m} \\ \mathbf{S^m} \\ \mathbf{R} \end{array}\right.$	6 00 17 15 18 00	13 30 18 00 21 00	Æ	75	E	78	SE	
31	10.	Т	.00	.01	R	7 30	9 10	SE	47	SE	55	ESE	-   -   · ·
n	I.44	.29	.12	1.85	•••		••••	• • •	3476	•••	1402	•••	28
an	• • •	•••	•••	•••	•••	••••	•• ••	SE	112.1	SE	45.2	SE	92

Tabulation of daily meteorological observations at Cape Flora during the month of August, 1904—Continued
Observer: Francis Long

					Crot	JDS					
		8н			12H			20H		, s	_
Date	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
1 2 3	10	** N* N**	SE E	 10	** N* N*	E ESE	10	** N** S*	E	10 10	Dense fog 0:00 to 24:00. Generally foggy. Generally foggy.
4	10	N*	NW	3 6	S-Cu	NW }	2	S-Cu	w	8	Fog 0:00 to 10:40.
5	{ 3 7	S-Cu S	E {	10	N*	ESE	10	N*	ESE	10	Fog 11:00 to 24:00. Fog 0:00 to 10:10.
6 7	10 2 2	(A-Cu) S-Cu	SE SE	0	•••	•••	10	s s	NE SE	5 5	rog 0.00 to 10.10.
8 9	10	S **	NE	10 5	N S*	NW SE	10	E	ENE	10 5	Generally foggy.
10	0	•••	•••	0	•••	•••	{ 2 2	(Ci-Cu) (Cu)*	NW }	2	Fog 14:50 to 21:30.
11	} 2	(Cu) S	NE }	10	S	E	ю	S	·E	8	
12	10	8	SE	{ 2 } 7	S-Cu S	NE }	Few 2	(Ci–S); S–Cu S	SE SE	ю	
13	10	N**	SE	•••	**	• • •	10	N* (A–Cu)	w sw }	10	Fog 5:00 to 24:00.
14	0	 (A–Cu)	E	•••	*		1 2	S-Cu (Cu)	SW }	6	Dense fog 0:00 to 2:00; fog 11:30 to 17:45.
15	} 4 2 (Few	S-Cu (Ci-S)	E NE ]	4	(A-Cu) S-Cu	SE SE	Few Few	S (Ci–S)	SE }	3	
16	Few Few	(Ci–Cu) S	NE }	Few	(Ci-S)	sw	2	(Ci–Cu)	sw }	. 5	T
17	10 } 2	S (A-Cu)	S E	8	S (S-Cu)'	SE }	Few	S-Cu	sw	5	Fog 12:30 to 15:20.
18 19	( 2 IO	S–Cu S	E	5	S S	SE }	10	s s	SE	10	
20	10	N	SE	10	S	E	Few	8	E	9	
2I 22	10	S–Cu	SE NE	10	S S-Cu	E E	5	S–Cu S–Cu	NE (	7	
23	0	•••		0			0		NE 5	0	
24	0	•••	•••	2	***	•••	0 5 2	(Ci-S)	s 1	2	
25	0	(A-S)	NE ]	0	a a		(Few	(A–S) S–Cu	S }	8	
<b>2</b> 6 '	{ 4 I	S-Cu S	NE }	5	S-Cu S	E	5	S-Ou S	E }	8	
27	{ 4 5	S-Cu S	E }	Few Few	Ci–S Ci–Cu S	E } E }	10	s	E	. 6	
28	Few 2 2 1	(Ci-S) (Ci-Cu) S-Cu S	E   E ( E )	{ 4 3	S–Cu	SE }	8	S-Cu	Ю	6	
<b>2</b> 9 30	10	S N	E	10	N N	ESE E	10	s* N	SE SE	10 10	Fog 16:50 to 24:00.
31	10	S*	SE	10	S*	SE	10	8	ESE	8	Fog 5:00 to 15:00.
Sum Mean	6.8	•••	•••	186 6.6	•••	•••	200 6.9	•••	•••	222 <b>7.2</b>	

Tabulation of daily meteorological observations at Cape Flora during the month of September, 1904

Observer: Francis Long

		1			READING O	<b>r</b>		Self-reg	ISTERING :	Fahrenhi	er There	10meters	
DATE	Anı	EROID BARO	M ETER		HEIT THER		8	н	12H	20	он	Mean of	Range
-	8н	12H	20H	8н	12H	20Н	Max.	Min.	Max.	Max.	Min.	extremes	Kange
;	. In.	In.	In.	0	0	0	•		0	۰	•	٥	•
I	29.68	29.58	29.56	+ 33.0	+ 33.0	+ 32.0	+ 33.0	+ 24.2	+ 33.2	+ 33.2	+ 31.0	+ 28.7	9.0
2	29.56	29.52	29.58	+ 32.0	+ 31.5	+ 28.5	+ 33.0	+ 31.0	+ 32.0	+ 32.0	+ 28.5	+ 30.8	4.5
3	29.46	29.48	29.55	+ 28.0	+ 30.0	+ 28.0	+ 28.5	+ 24.0	+ 30.0	+ 32.0	+ 28.0	+ 28.0	8.0
: 4	29.64	29.70	29.67	+ 26.0	+ 25.0	+ 23.0	+ 28.0	+ 25.0	+ 26.0	+ 26.0	+ 22.0	+ 25.0	6.0
5	29,56	29.52	29.54	+ 23.0	+ 25.5	+ 23.5	+ 23.0	+ 19.0	+ 26.0	+ 26.0	+ 21.0	+ 22.5	7.0
6	29.55	29.62	29.72	+ 24.0	+ 20.5	+ 25.5	+ 24.0	+ 22.0	+ 24.0	+ 25.5	+ 19.0	+ 22.2	6.5
7	29.77	29.81	29,84	+ 22.2	+ 22.0	+ 20.0	+ 25.5	+ 21.2	+ 23.5	+ 23.5	+ 19.0	+ 22.2	6.5
8	29.82	29.81	29.72	+ 22.0	+ 23.0	+ 21.0	+ 22.0	+ 19.0	+ 25.0	+ 25.0	+ 20.0	+ 22.0	6.0
9	29.62	29.59	29,52	± 20.8	+ 22.0	+ 28.0	+ 21.0	+ 17.9	+ 22.0	+ 28.0	+ 20.0	+ 23.0	10.1
10	29.53	29.56	29.58	+ 29.0	+ 26.5	+ 23.4	+ 29.0	+ 26.0	+ 29.0	+ 29.0	+ 23.4	+ 26.2	5.6
11	29.60	29.66	29.74	+ 19.0	+ 18.0	+ 20.0	+ 23.4	+ 16.0	+ 19.9	+ 20.0	+ 15.5	+ 19.4	7.9
12	29.82	29.88	29.89	+ 23.0	+ 24.0	+ 22.0	+ 23.2	+ 19.0	+ 24.0	+ 24.0	+ 21.0	+ 21.5	5.0
13	29.88	29.89	29.73	+ 21.0	+ 23.0	+ 28.0	+ 23.0	+ 19.3	+ 23.5	+ 28.0	+ 20.2	+ 23.6	8.7
14	29.54	29.52	29.48	+ 30.0	+ 31.0	+ 30.0	+ 30.0	+ 27.0	+ 31.0	+ 31.0	+ 27.0	+ 29.0	4.0
15	29.52	29.60	29.68	+ 23.5	+ 23.9	+ 20:0	+ 30.0	+ 23.5	+ 26.2	+ 26.2	+ 20.0	+ 25.0	10.0
. 16	29.77	29.82	29.56	+ 23.0	+ 21.0	+ 25.0	+ 23.0	+ 19.1	+ 23.5	+ 25.0	+ 20.0	+ 22.0	5.9
· <b>17</b>	29.62	29.58	29-33	+ 21.0	+ 21.0	+ 25.4	+ 27.0	+ 18.0	+ 21.0	+ 25.4	+.18.0	+. 22.5	9.0
18	29.34	29.42	29.42	+ 18.0	+ 16.6	+ 15.6	+ 25.4	+ 17.0	+ 18.0	+ 18.0	+ 14.0	+. 19.7	11.4
- 19	29.32	29.41	29.54	+ 15.0	+ 14.6	+ 11.0	+ 16.0	+ 15.6	+ 15.0	+ 16.0	+ 10.0	+ 13.0	6.0
.20	29.29	29.26	29.25	+ 17.0	+ 20.1	+ 17.0	+ 17.0	+ 10.5	+ 20.1	+ 23.0	+ 16.0	+ 16.8	12.5
21	29.58	29.67	29.73	+ 7.0	+ 12.0	+ 16.0	+ 17.0	+ 3.5	+ 12.0	+ 17.0	+ 7.0	+ 10.2	13.5
-22	29.74	29.84	29.93	+ 14.0	+ 16.0	+ 12.0	+ 16.0	+ 13.0	+ 16.0	+ 18.1	+ 12.0	+ 15.0	6.1
.23	29.84	29.83	29.62	+ 20.0	+ 20.0	+ 20.5	+ 20.0	+ 9.0	+ 20.0	+ 20.5	+ 17.8	+ 14.8	11.5
24	28.98	28.98	28.98	+ 31.0	+ 31.5	+ 28.0	+ 31.0	+ 20.0	+ 31.5	+ 31.5	+ 27.6	+ 25.8	11.5
.: 25	28.79	28.81	28,93	+ 21.0	+ 19.0	+ 11.0	+ 28.0	+ 20.0	+ 21.0	+ 21.0	+ 9.0	+ 18.5	19.0
, 26	29.44	29.53	29.73	+ 6.0	+ 9.0	+ 10.0	+ 11.0	+ 3.5	+ 9.0	+ 10.0	2.0	+ 4.5	13.0
. 27	30.04	30.10	30.12	+ 12.0	+ 15.0	+ 15.0	+ 12.0	+ 9.0	+ 15.0	+ 17.9	+ 11.0	+ 13.4	8.9
28	29.50	29.32	29.44	+ 27.0	+ 29.0	+ 14.0	+ 27.5	+ 14.0	+ 30.0	+ 30.0	+ 14.0	+ 22.0	16.0
. 29	29.45	29.45	29,48	<b>+</b> 15.8	+ 16.0	+ 14.5	+ 19.0	+ 11.5	+ 16.4	+ 16.4	+ 14.0	+ 15.2	7.5
30	29.50	29.54	29.56	+ 18.0	+ 19.2	+ 20.0	+ 18.0	+ 12,4	+ 19.2	+ 20.0	+ 18.0	+ 16.2	7.6
Sum	886,75	887.30	887.42	+642.3	+658.9	+627.9	+704.5	+530.2	+683.0	+719.2	+542.0	+618.7	264.2
Mean	29.56	29.58	29.58	+ 21.4	+ 22.0	+ 20.9	+ 23.5	+ 17.7	+ 22.8	+ 24.0	+ 18.1	+ 20.6	8.8
	1		)	, , ,			1	1	1	1	<u> </u>	1	1

Tabulation of daily meteorological observations at Cape Flora during the month of September, 1904—Continued
Observer: Francis Long

				Duster	PITATION					W	IND		
<b>D</b>				FRECI	FITATION		, say	81	3	12	:н	20	эн
Date	8н	12H	20Н	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov, since last obs.	Direction	Wind mov.
1	In	In.	In.	In.	S <sup>m</sup>	h m	h m	SSE	Mi. 406	SSE	Mi. 31	SE	M
2	.02	.04	${f T}$	.06	S <sup>m</sup>	5 00	12 30	SSE	131	SE	8	SE	3
3	.05	.00	.04	.09	Sq Sq	4 00	6 40 }	SE	37	sw	41	NW	4
4	.00	.00	.00	•00		17 30	19 30 \$	WNW	175	NW	47	NW	13
5	.00	.00	.00	.00				NW	249	NW	80	NW	21
6	.00	.00	.00	.00				NW	215	NW	63	NW	13
7	.00	.00	.00	.00	•••			NW	208	NW	79	NW	160
8	.00	.00	.00	.00				N	158	N	II	N	3
9	.00	.00	${f T}$	Т	S <sup>d</sup>	14 00	14 40	SE	44	SE	50	NE	50
10	.00	.00	.00	.00				C	23	NE	27	E	6,
11	.00	.00	.00	.00	S <sup>d</sup>	20 25	20 50	N	130	N	67	NW	8:
12	T	.00	.00	${f T}$	S <sup>d</sup>	13 10	13 40	NW	197	NW	62	NW	18
13	.00	.00	.02	.02	{ S <sup>d</sup> S	12 40 18 40	14 00 }	NW	188	NW	48	NW	8
14	.15	.00	•04	.19	Sd Sd	8 30	5 00 } 13 30 }	NW	72	NW	14	NW	I
15	.00	.00	.00	.00				ENE	125	E	68	NE	12
16	.00	-00	.00	.00	•••			WNW	173	wsw	52	w	11
17	.00	.00	.00	.00	S <sup>m</sup>	16 . 30	21 00	w	126	WNW	55	W	11
18	T	•00	.00	${f T}$	Sq	20 45		NNW	120	NW	56	NW	7
19	.02	.00	.00	.02	S <sup>4</sup>		1 30	w	166	NW	79	NW	11
20	.00	•00	.02	.02	S <sup>d</sup>	16 10		E	54	E	55	Ð	14
21	.06	.00	.00	.06	S <sup>4</sup>		5 00	NW	304	NW	44	NW	.7
22	.00	-00	.00	.00				NW	115	NW	32	N	6
23	.00	T	.01	.01	S <sup>m</sup>	10 10 19 00	}	w	223	w	79	E	.9
24	.60	.04	.00	.64	S <sup>m</sup>		11 30	E	195	C	6	NW	3
25	·T	.00	.00	${f T}$	•••	,		NE	136	NE	90	NW	20
26	.00	.00	.00	.00	•••			WNW	397	N	103	W	21
27	•00	.00	.00	.00	***	•• ••	•• ••	C	250	N	49	sw	2
28	.10	.02	т	.12	S <sup>4</sup>	3 00	12 40	sw	170	W	70	w	20
29	.00	.00	•00	.00	•••		•• ••	WNW	339	NW	91	NW	16
30	.00	.00	.00	.00	S <sup>m</sup>	16 00	•••••	w	224	NW_	51	w	. 6
ım	1.10	.12	.13	1.35	•••	••	•• ••	•••	5350	•••	1608	•••	308
ean	•••	•••	•••	•••	•••		•• ••	NW ]	178.3	NW	53.6	NW	102.

Tabulation of daily meteorological observations at Cape Flora during the month of September, 1904—Continued

Observer: Francis Long

						Obs					
					Сьо	UDS					
_		8н			12H			20H		, ,,	
Date	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
I	10	N	SSE	10	s		10	s	SE	10	
2	10	N	SSE	10	N	SE	10	S*	SE	10	Fog 18:30 to 24:00.
3	<b>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</b>	(A-Cu) S-Cu	SE SE	10	s	sw	10	S	NW	10	Fog 0:00 to 4:30.
4	10	S	NW	<b>{</b> 4 5	(S-Cu)	NW }	8	S-Cu	NW	8	
5	{ 4 6	(S-Cu)	NW NW	10	S-Cu	NW.	10	S-Cu	NW	10	High northwest winds.
6	10	S	NW	7	S-Cu	NW	10	s	NW	9	
7	10	s	NW	{ 2 4	(Ci-Cu) S-Cu	NW }	10	s	NW.	8	
8	10	s	N	{ 2 4 2	(A-Cu) S-Cu S	N N N	10	s	N	9	
9	{ 4 4	(A-Cu) S-Cu	SE SE	4 5	(A-Cu) S-Cu	SE }	10	s		io	
ю	{ 4 4	(A–Cu) S–Cu	N.	10	s	NE	10	s	E	9	
11	{ 2 { 4	(A-Cu) S-Cu	N	I 5	(A-Cu) S-Cu	N }	10	s	NW'	7	
12	10	s	NW	{ 3 7	(S-Cu)	NW NW	3 6	(S-Cu)	NW {	8	
13	{ 4 3 1	(A-Cu) S-Cu S	NW NW NW	10	s	NW	10	N*	NW	9	Fog 15:40 to 24:00.
14	10	S*	NW	10	N*	NW		**		10	Generally foggy.
15	10	s	ENE	<b>{</b> 4 6	(S-Cu)	E	3 5	(S-Cu) S	NE }	. 9	Fog 0:00 to 6:00.
16	ю	·s	NW	8	s	wsw	8	S	W	8	
17	10	s	w	10	S .	w	10	N	w	10	
18	{ 3 6	(S-Cu) S.	NNW		8	NW	10	ន	NW	10	
19	3	S-Cu S	W }	3	S-Cu	NW	3	S-Cu	NW	3	·
20	10	s	16	10	s	E	10	N*	Ю	10	Fog 16:30 to 24:00.
21	3	S-Cu	NW	<b>3</b> 6	(S-Cu)	NW }	9	· s ·	NW	7	
22	{ 2 2	(Ci-Cu) S-Cu	NW }	0	•••	• • •	Few.	s	N	I.	. '
23	10	S	W	10	S	W	10	N	E	10	
24	10	N* (Ci-Cu)	E	2	** (Ci-Cu)	NE }	10	S	NW	10	Foggy to 18:00.
25	3	S-Cu	NE	6	S-Cu	NE \$	10	S	NW	8	High northeast wind shifting to northwest at 14:00.
<b>2</b> 6	Few	(Ci–Cu)	NW	Few Few	S Ci–S	N NW	Few	S-Cu S	sw	3	High northwest gale to 5:30. Party left for Camp Abruzzi at 11:30.
27 28	10	N* .	sw	IO IO	N*	W	Few	S	W	7	Fog 6:00 to 15:00.
29	0			o	•••	•••	3	s	ŅW	I	High west to northwest wind all night.
30	{ 2 5	(A-Cu) S-Cu	₩ .}	10	S	ŅW	,10	<u>s</u>	w	8	
Sum	230	•••	•••	223	•••	* * *	238	•••	•••	235	
Mean	7.7		• • •	7.7		• • •	8.2	• • •	•••	7.8	

Tabulation of daily meteorological observations at Cape Flora during the month of October, 1904

Observer: Francis Long

1						SELF-REC	ISTERING ]	Fahrenhi	EIT THERN	MOMETERS			
DATE	Ane	ROID BAROM	ETER		READING OF		81	H	12H	20	ЭН	Mean of	Range
	8н	12H	20H	8н	12H	20H	Max.	Min.	Max.	Max.	Min.	extremes	Kange
	In.	In.	In.	۰	0	•	,•		۰	0	•	0	0
I	29.58	29.66	29.68	+ 21.0	+ 22.5	+ 18.0	+ 21.0	+ 17.0	+ 22.5	+ 22.5	+ 17.0	+ 19.8	5.5
2	29.56	29.58	29.40	+ 14.0	+ 14.0	+ 13.0	,+ 18 <u>.</u> 0	+ 12.0	+ 14.0	+ 15.0	+ 11.0	+ 14.5	7.0
3	29.28	29.36	29.35	+ 25.0	+ 28.0	+ 23.0	+ 25.2	+ 13.0	+ 28.0	+ 28.0	+ 23.0	+ 20.5	. [15.0
4	29.00	28.93	28.77	+ 21.0	+ 24.0	+ 28.0	+ 23.0	+ 19.0	+ 26.0	+ 28.0	+ 27.0	+ 23.5	9.0
5	28.74	28.82	29.02	+ 24.0	+ 23.3	+ 20.8	+ 28.0	+ 23.2	+ 24.0	+ 24.0	+ 20.0	+ 24.0	.: 8.o
6	29.14	29.22	29.28	+ 20.0	+ 21.2	+ 21.2	+ 23.6	+ 19.0	+ 21.2	+ 21.2	+ 18.6	+ 21.1	. 5.0
7	29.28	29.30	29.30	+ 24.0	+ 25.0	+ 23.4	+ 24.0	+ 20.0	+ 25.0	+ 25.3	+ 22.2	+ 22.6	5.3
8	29.20	29.20	29.23	+ 27.0	+ 28.0	+ 30.0	+ 27.3	+ 20.1	+ 29.0	+ 30.0	+ 25.2	+ 25.0	9.9
9	28.98	28.89	28.84	+ 25.0	+ 25.0	+ 25.6	+ 30.0	+ 24.0	+ 25.0	+ 26.2	+ 24.0	+ 27.0	6. <b>o</b>
10	29.07	29.17	29.43	+ 18.6	+ 19.0	+ 9.0	+ 25.6	+ 18.o	+ 19.0	+ 19.0	+ 9.0	+ 17.3	16.6
11	29.60	29.67	29.70	+ 5.5	+ 10.0	+ 15.0	+ 9.0	+ 5.0	+ 10.0	+ 15.0	+ 4.0	+ 9.5	(II.0
12	29.43	29.23	29.20	+ 26.0	+ 31.5	+ 31.0	+ 26.4	+ 12.0	+ 31.5	+ 33.0	+ 22.1	+ 22.5	21.0
13	28.90	28.87	29.12	+ 27.5	+ 28.0	+ 9.5	+ 31.5	+ 27.0	+ 28.0	+ 28.0	+ 9.0	+ 20.2	22.5
14	29.33	29.34	28.92	+ 2.9	+ 5.0	+ 10.0	+ 9.5	<b>— 1.0</b>	+ 5.0	+ 10.0	+ 2.1	+ 4.5	11.0
15	28.90	28.96	29.38	+ 12.0	+ 10.5	+ 10.5	+ 12.0	+ 8.0	+ 17.0	+ 17.0	+ 7.0	+ 12.0	10.0
16	29.70	29.72	29.65	+ 9.9	+ 13.4	+ 24.0	+ 10.5	+ 2.5	+ 13.4	+ 24.0	+ 8.2	+ 13.2	21.5
17	29.52	29.54	29.53	+ 33.5	+ 32.5	+ 32.8	+ 34.0	+ 24.0	+ 33.5	+ 33.5	+ 31.8	+ 29.0	10.0
18	29.54	29.55	29.55	+ 27.0	+ 24.0	+ 9.5	+ 32.8	+ 27.0	+ 27.0	+ 27.0	+ 7.0	+ 19.9	25.8
19	29.68	29.78	29.93	+ 7.0	+ 3.0	+ 5.0	+ 9.5	+ 4.0	+ 8.0	+ 8.0	0.0	+ 4.8	9.5
20	29.86	29.85	29.68	+ 4.0	+ 6.0	+ 3.0	+ 8.0	+ 2.0	+ 7.0	+ 9.0	+ 2.0	+ 5.5	7.0
21	29.38	29.36	29.36	+ 17.4	+ 21.0	+ 9.5	+ 18.0-	+ 2.0	+ 21.0	+ 21.0	+ 9.0	+11.5	19.0
22	29.48	29.45	29.34	+ 4.0	+ 5.5	+ 2.0	+ 9.5	+ 2.0	+ 5.5	+ 10.2	+ 2.0	+ 6.1	8.2
23	29.62	29.76	29.88	- 2.0	<b>—</b> 6.0	0.0	+ 4.0	4.0	- 2.0	0.0	- 7.0	- 1.5	11.0
24	29.82	29.82	29.64	— t.o	0.0	+ 3.0	0.0	- 4.6	0.0	+ 3.0	- 3.0	- o.8	7.6
25	29.10	29.09	29.30	+ 12.0	+ 10.0	+ 3.0	+ 12.0	+ 3.0	+ 12.0	+ 12.0	+ 3.0	+ 7.5	9.0
26	29.60	29.71	29.71	_ 5.o	- 5.8	- 7.0	+ 4.0	<u>∴</u> 5.0	- 4.0	- 4.0	- 7.0	- 1.5	5.11.0
27	29.67	29.70	29.72	- 3.0	- 2.1	_ i.o	0.0	- 1.2	+ 0.2	+ 0.2	→ 5.0	- 2.4	5.2
28	29.71	29.72	<b>29.7</b> 6	+ 2.0	+ 2.5	4.0	+ 2.0	3.0	+ 3.0	+ 3.0	- 4.4	- 0.7	7.4
29	29.70	29.74	29.75	6.8	5.5	- 4.1	- 3.2	- 9.2	- 4.8	- 3.2	8.8	- 6.2	6.0
30	29.52	29.45	28.90	+ 5.0	+ 6.5	+ 11.0	+ 6.0	- 4.0	+ 6.9		+ 5.0	+ 3.5	15.0
31	28.40	28.48	28.60	+ 10.0	+ 7.1	2.0	+ 20.0	1	+ 10.5				22.0
Sum	910.29	911.92	910.92	+407.5	+427.1	+372.7	+501.2	+281.3	+462.4	+507.4	+272.0	+380.0	358.0
Mean	29.36	29.42	29.38	+ 13.1	+ 13.8	+ 12.0	+ 16.2			1 1		+ 12.3	

Tabulation of daily meteorological observations at Cape Flora during the month of October, 1904—Continued Observer: Francis Long

	11						. TRANCIS L	1					
				Preci	PITATION					W	IND		
T) . mm				- Augus				81	<b>a</b>	12	н	20	)H
Date	8н	12H	20н	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.
	In.	. In.	In.	In.		h m	h m		Mi.		Mi.		Mi.
I	.03	T	.00	.03	S <sup>m</sup>		9 10	E	86	ENE	51	E	149
2	00	.00	.00	.00	•••	- • • • •		E	548	E	179	Ð	370
3	.00	T	.00	T	S <sup>m</sup>	9 00	10 30	E	452	E	55	E	•••
4	.00	.00	T	T	S <sup>m</sup>	11 00	12 40	ENE		ENE		NE	1406
5	.00	.00	.00	.00	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	D. N.	7 20	N	282	N	143	NE	144
6	.20	.00	.01	.21	{ S <sup>m</sup>	19 00	7 30 } 21 00 }	NNE	174	G	7	Ð	33
7	T	.00	.00	T		•••		E	106	SE	66	E	138
8	.00	.04	.02	.06	S <sup>m</sup> R	9 40 15 00	12 30 { 21 20 }	E	228	E	104	SE	168
9	.15	.20	.40	.75	S <sup>m</sup>	D.N.	21 10	ESE	262	SE	73	$\mathbf{w}$	112
10	.02	.00	.00	.02				WNW	326	w	8o	w	168
11	.00	.00	.01	.01	S <sup>m</sup>	13 30	16 15	NW	174	NW	46	B	68
12	.00	.04	T	.04	S <sup>m</sup>	10 00	13 00	SE	329	SE	125	sw	135
13	.00	.00	.00	.00				s	103	E	63	NW	64
14	.00	.00	.06	.06	S <sup>d</sup>	18 15	D.N.	w	243	w ·	42	E	120
15	.04	.00	.02	.06	Sª	. 12 50	15 00	r:a	271	E.	32	NE	115
16	.00	.00	.00	.00		••••		ю	57	ssw .	10	ESE	83
17	.00	T	.01	.oı	} R } R	11 40 12 08	11 46 } 12 25 }	ESE	110	E	21	ENE	33
18	.00	.00	.00	.00				. <b>N</b>	95	N		NE	114
19	.00	.00	.00	.00				<b>N</b>	270	w	42	$\mathbf{w}$	37
20	.00	.00	.00	.00				В	94	Ю	74	E	163
21	.00	.02	.09	.11	S <sup>d</sup>	9 15	16 30	SE	34	s	19	NE	56
22	.00	.00	.00	.00	•••	·		NE	179	w	12	NE	175
23	.00	.00	.00	.00	•••	·	•• ••	NW	293	N	60	N	-116
24	.00	00	.00	.00	•••			w	139	NW	29	E	59
25	.00	.02	$\mathbf{T}$	.02	$S^d$	. 9 40	12 30	E	- 389	E	159	NW	115
26	.00	.00	.00	.00	•••			NW	286	NE	88	N	92
27	.00	.00	.00	.00	•••		••••	NE	109	NE	62	NE	97
28	.00	.00	.00	.00	• • •		•• ••	NW	162	NW	57	N	69
29	.00	.00	T	Т	S <sup>4</sup>	18 30	D.N.	NE	68	NE	16	E	60
30	.05	.00	.40	•45	$S^d$	16 00	•• ••	E	199	ĸ	41	E	236
31	.50	.15	.02	.67	, S <sup>d</sup>	••••	13 00	WNW	334	_NW	III	NW	184
Sum	-99	•47	1.04	2.50	•••	•• ••	• • • • •	•••	6402	•••	1867	•••	4879
Mean	•••	•••	•••	•••	•••	•• ••	•• ••	E	213.4	E	64.4	E	162.6

Tabulation of daily meteorological observations at Cape Flora during the month of October, 1904—Continued Observer: Francis Long

Date	5:00.  Evy east gale.  5:30 to 10:40.  snow 11:00 to 12:40;
I       IO       N       E       { 4   (A-S)   W   N   N   N   N   N   N   N   N   N	5:00.  Evy east gale.  5:30 to 10:40.  snow 11:00 to 12:40;
Columbia   Columbia	tvy east gale. 5:30 to 10:40. snow 11:00 to 12:40;
2	5:30 to 10:40. snow 11:00 to 12:40;
3	snow II:00 to 12:40;
5   10   S   N   10   S   N   10   S   NE   10   Drifting snow.  6   { 2	
6	om 16 <b>:00</b> .
6       2       S-Cu S Cu S NE S SE NE N SE NE N SE NE N SE NE N SE NE N SE NE N SE NE N SE NE N SE NE N SE NE N SE N	om 16 <b>:00</b> .
8	om 16300.
8	
10          {             2 8 S-Cu 8 NW }               S NW                 S NW	ifting snow to 13:00.
II 8 8 NW 10 8 NW 10 8 E 8	9:30.
II 3 S-Cu NW IO S NW IO S E 8	
	and drift to 9:15.
13 ** 10 S E 9 S NW 8 Dense fog to 9:30.	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
16 10 S* E 10 S* SSW . 10 S* . ESE 10 Light fogs 6:00 to 13:3	o and 17:00 to 24:00.
17 ** 10 Generally foggy.	
18 10 S E ** 0 7 Fog early A. M. and 10	-
19 Few S N 0 0 Solar halo 11:50 to 12 20 Few (A-S) E 0 0 2 Fog from 18:30.	2:20.
20 Few (A-S) E 0 0 2 Fog from 18:30. 21 10 S SE 10 N* S 10 (S) NE 10 Fog 9:15 to 17:00.	
22 \[ \begin{pmatrix} 3 & (A-S) & NE & 3 & (A-Cu) & W \ S & NE & S & Sun disappears for wing the control of the	nte <b>r.</b>
Few S NW Few S N \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
25 10 S E 10 N* E 10 S* NW 10 East gale to 11:00; f	og 10:00 to 13:00 and
26	9:00.
27 9 S NE 10 S NE 10 S NE 10	
28 10 S NW 10 S NW Few Ci-S N 7	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
30 10 S E 10 S E 10 N E 10 Drifting from 16:00.	
31 IO N WNW IO N NW IO S NW IO	
Sum 212 230 219 239	
Mean 7.3 7.9 7.1 7.7	

Tabulation of daily meteorological observations at Cape Flora during the month of November, 1904

Observer: Francis Long

					D-1	_		SELF-REC	ISTERING	Fahrenh	eit Theri	MOMETERS	
Date	An	EROID BARO	METER	FAHREN	Reading o	f MOMETER	8	н	12H	20	OH	Mean	
	8н	12H	<b>2</b> 0H	8н	12H	20Н	Max.	Min.	Max.	Max.	Min.	of extremes	Range
	In.	In.	In.	o	0	0	0	. •			0	0	٥
I	28.91	29.04	29.12	- 10.0	- 9.0	9.0	- 2.0	- 10.0	- 9.0	- 9.0	- 12.0	<b>— 7.0</b>	10.0
2	29.22	29.30	29.38	12.0	- 12.0	- 11.0	- 9.0	- 13.5	_ 11.5	- 10.5	- 13.4	11.2	4.5
3	29:36	29.39	29.36	6.0	— 7.I	- 5.0	<b>—</b> 6.0	<b>— 12.0</b>	<b>—</b> 6.0	- 5.0	- 7.1	8.5	7.0
4	29.48	29.52	29.58	- 4.0	1.2	. — 4.0	- 4.0	- 7.0	I.o	0.0	6.0	- 3.5	7.0
5	29.61	29.70	29.68	8.0	10.0	— g.o	- 2.2	11.0	- 7.0	- 7.0	- 14.0	— 8.1	11.8
6	29.60	29.66	29.68	- 7.0	<b>— 7.0</b>	- 11.0	— r.o	- 10.2	3.0	— з.о	- 13.9	- 7.4	12.9
7	29.74	29.80	29.82	<b>— 14.0</b>	— 16.o	. — 18.0	9.0	<b>— 17.0</b>	- 14.2	14.2	- 21.6	- 15.3	12.6
8	29.79	29.81	29.88	— 8.o	— 12.5	10.0	8.0	- 19.1	7.0	7.o	- 12.5	- 13.0	12.1
9	29.88	29.94	29.98	— 9·5	— 15.0	— 18.0	- 9.0	<b>— 13.6</b>	- 9.5	<b>—</b> 9.5	20.0	- 14.5	11.0
10	29.86	29.84	29.76	6.2	— IO.O	<b>—6.8</b>	6.2	20.0	— 6.2	- 6.2	- 10.4	— 13.1	13.8
II,	29.59	29.58	29.56	- 6.0	· — 8.o	. — 1.5	<b>→</b> 3.0	11.4	- 2.0	1.5	- 8.0	- 6.4	9.9
12	29.56	29.62	29.66	0,0	0.0	- 5.0	0.0	- 4.0	0.0	+ 1.2	- 5.0	- 1.9	6.2
13	29.56	29.53	29.57	- 14.0	<b>— 15.0</b>	- 7.5	- 4.0	<b>—</b> 16.0	<u>.</u> — 14.0	— 7·5	15.0	— 10.o	12.0
14	29.52	29.32	28.72	- 10.1	- 9.4	+ 23.0	- 7.5	- 12.2	- 9.4	+ 23.0	14.9	+ 4.0	37.9
15	28.56	28.64	28.74	0.0	. — 7.6	- 16.8	+ 29.2	- :1.1	. 0.0	0.0	17.0	+ 6.1	46.2
16	28.72	28.70	28.60	<b>— 20.0</b>	- 20.0	- 21.0	17.0	- 20.4	- 19.8	19.8	— 23.4	- 20.2	6.4
17	<b>28.7</b> 6	28.88	29.02	- 6.0	6.0	8.0	6.0	- 22.0	5.0	- 5.o	- 9.2	<b>— 13.5</b>	17.0
18	29.12	29.18	29.17	15.8	- 16.1	— 10.8	— `8.o	17.3	<b>— 10.0</b>	- 8.5	<b>—</b> 18.0	<b>— 13.0</b>	10.0
19	29.16	29.20	29.22	18.0	— I5.0	21.5	9.0	19.2	- 14.5	- 14.0	- 21.5	- 15.2	12.5
20	29.40	29.56	29.56	- 22.0	- 15.0	— II.0	- 17.0	- 24.0	- 14.0	9.5	- 19.5	<b>— 16.8</b>	14.5
21	29.52	29.56	29.42	- 18.2	— 17.8	- 8.5	- 9.5	21.0	11.0	- 8.5	- 19.2	<b>— 14.8</b>	12.5
22	29.33	29.40	29.42	— I2.0	∷— 16.0	_ `19.1	- 9.5	<b>— 13.0</b>	12.0	<b>— 12.0</b>	- 19.1	14.3	9.6
23	29.40	29.02	28.94	; — 14.0	~ == II.o	16.0	14.0	- 23.0	10.0	— 7·5	16.o	- 15.2	15.5
24	29.10	29.17	29.16	- 21.0	24.0	30.0	— '16.o	22.5	- 20.0	20.0	30.0	- 23.0	14.0
25	29.13	29.20	29.24	— 31.0°	28.0	24.0	— 30.0	- 32.8	— <b>28.</b> 0	24.0	<b>— 31.0</b>	- 28.4	8.8
26	<b>29.3</b> 6	29.43	29.43	24.0	22.5	— 31.0	— 22.5	- 24.5	<b>— 22.4</b>	- 22.0	- 32.1	27.0	10.1
27	29.52	29.54	29.48	25.0	23.5	— 21.0	25.0	<b>— 31.</b> 6	- 22.6	- 21.0	- 25.0	- 26.3	10.6
28	29.42	29.50	29.53	— 16.0	<b>— 13.0</b>	. — 11.2	- 15.2	2I.O	- 13.0	- 9.2	— 16.o	<b>— 15.</b> 1	11.8
29	29.64	29.66	29.70	— 2 <b>0.</b> I	20.8	— 16.2	<b>— 9.0</b>	- 21.4	20.0	- 16.o	- 22.0	- 15.5	13.0
30	29 <b>.</b> 70	29.76	29.80	∴ — 24.0	- 21.0	— 14.0	- 16.2	- 24.0	20.0	- I3.0	- 24.0	<b>— 18.5</b>	11.0
ım	881.52	882.45	882.18	-401.9	409.5	-372.9	-265.6	-515.8	-342.I	-266.2	<u>516.8</u>	-385.8	392.
ean	29.38	29.42	29.41	- 13.4	. — 13.7	— 12.4	8.9	- 17.2	_ 11.4	- 8.9	- 17 2		13.

Tabulation of daily meteorological observations at Cape Flora during the month of November, 1904—Continued Observer: Francis Long

				<b>D</b>						W	IND		
				PRECIE	PITATION			81	i	12		20	Н
Date	8н	12H	20日	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.
	In.	In.	In.	In.		h m	h m		Mi.		Mi.		Mi.
ı	.00	.00	.00	.00	$S^a$	0 00	8 00	NW	295	NW	93	NW	243
2	T	T	.00	Т	$S^{\mathfrak{d}}$	7 00	9 00	NE	205	NW	58	NW	79
3	.00	.00	.04	.04	$S^{\mathfrak{a}}$	16 00		SE	190	SE	78	SE	54
4	.02	.00	.00	.02	•••		•• ••	ESE	280	SE	57	SE	189
5	•00	•00	.00	.00	•••	•• ••		SE	134	SE	120	G	5
6	.00	.00	.00	.00	•••			SE	45	E	21	C	3
7	.00	.00	.00	.00	•••			E	25	C	11	C	14
8	.00	.00	.00	.00	•••			Б	34	E	53	E	156
9	.00	.00	.00	.00	•••		•• ••	E	233	E	70	C.	54
10	.00	.00	.00	.00	• • •	•• ••		SE	114	NE	54	NE	88
11	.00	.00	Т	т	$S^{\mathfrak{d}}$	19 30	D.N.	NE	88	NE	32	SE	106
12	.01	.00	.00	.oı	•••			SE	97	SE	44	w	89
13	.00	•00	T	T	$S^4$	19 30	20 30	С	27	C	. 2	SE	21
14	T	.04	.62	<b>.6</b> 6	Sa	10 15	D.N.	SE	29	SE	89	SSE	141
15	.02	.00	.00	.02	•••	••••		w	43	w	49	w	63
16	.00	•00	.00	.00	•••			NW	194	NW	109	NW	47
17	.00	.00	.00	.00	Sª	0 00	7 00	NE	296	NE	72	NE	158
18	.00	.00	.00	.00	•••			N	213	C	53	NE	47
19	.00	.00	.00	.00	•••		•• ••	N	286	NE	27	NE	235
20	.00	.00	.00	.00	•••			NE	418	NNE	160	NE	101
21	.00	.00	.01	ıo.	$S^a$	18 00	D.N.	E	244	w	26	w	74
22	.02	.00	.00	.02	•••			w	150	N	53	O	108
23	$_{f T}$	.02	T	.02	$\mathbb{S}^{d}$	7 00	13 00	sw	51	ssw	33	SE	65
24	.00	.00	.00	.00	$S^d$	10 00	15 30	NNE	220	N	91	N	130
25	.00	${f T}$	T	${f T}$	Sª	11 30	13 40	N	243	N	69	NE	151
26	.00	.00	.00	.00				NNE	466	NW	110	N	187
27	.00	.00	.00	.00	•••			NW .	249	WNW	102	w	144
28	.01	.04	.06	.11	$S^d$	7 10	18 20	NE	180	NE	76	NE	124
29	.00	.00	.00	.00	•••		** **	C	100	C	0	N	5
30	.00	.00	.00	.00	•••			g	6	, <b>C</b>	.555	ESE	
Sum	.08	.10	.73	.91			••••		l—				22
Mean					• • •		••••	SIF	5164	NIE	1817	ATTA	2903
acud	••••	•••	•••	•••	•••		•••••	SE	172.1	NE	60.6	NE	96.8

Tabulation of daily meteorological observations at Cape Flora during the month of November, 1904—Continued
Observer: Francis Long

							. 00	V351067.	FRANCIS .			
						Сьо	UDS		·			
			8н			12H			20H			
<b>D</b> <sub>4</sub>	ATE	Àmount	Character	Ďir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	REMARKS
	Ι.	10	s	NW	{ 3 5	'(A-S)	NW }	10	S	NW	10	Gales A. M. and P. M.
	2	10	N	NE	{ 3 2	(A-S)	NW }	o	•••		4	Strong wind to 1:00.
	3	Few	s	SE	{ 5 4	(A-S) S	SE }	10	. <b>N</b>	SE	8	Strong southeast wind from 16:00.
	4	{ 5 4	(A-S) S	SE SE	5 4	(A-S)	SE }	o			8	Strong southeast wind to early A. M.
	5	0		•••	0	•••	•••	0	•••	,	o	
	6	.0	•••	•••	Few	. <b>8</b> .	E	0		•••	0	Fog 9:00 to 12:30.
	7	10	S	E	10	S*	•••	0	•••		3	
	8	Few 2	(A-S) S	E	Few Few	(A-S) S	E }	0		•••	1	
	9	0	•••		0	, .		0	•••	•••	0	
	10	2	~ <b>S</b>	SE	{ : 3	(A-Çu)	NE }	. 2	s	NE	2	
	11	2	S	NE	IO	S	NE	10	- N	SE	8	Light haze 17:00 to 21:00.
,	12	10	S	SE	10	s	SE	0	H	•••	7	
	13	0	•••		Few	s	SE	10	N	SE	3	
	14	10	S	SE	10	N	SE	10	N	SSE	10	
	15	10	S	W	10	S	W	10	s	w	10	
	16	10	S	NW	10	S	NW	10	S .	NW	IO	Drifting snow P. M.
	17	10	S	NE	9	S	NE	{ 3 5	S-Cu S	NE }	9	Drifting snow to 7 A. M.
	18	Few	S	N	0	•••	***	0	•••	. • • •	0	
	19	0	•••	•••	0	•••		0	•••		0	Open water to west in Meyers channel.
,	20	0			0	· · ·	E)	0	3.7	***	ı	Open water to west in Meyers channel.
	21	Few	S	E	2	S	E	10	N	W	9 1	Open water to west and south.
	22	10	s N	sw	Few	N	ssw	0	*	•••	6	Fog 14:00 to 21:00.
3	23 24	10	S	NE	10	s	N	0	. *		7	Drifting snow 10:00 to 15:30; fog 17:00 to
	25	{ 2 } I	(A-S)	E	10	N	N	10	S	NE	8	21:00. Drifting snow 14:00 to 21:00.
	26	{ 2 2	(A-S) S	NNE }	Few	S-Cu	NW	10	s	N	6	
	27	{ 2 8	S-Cu S	NW }	10	s	WNW	10	s	w	10	
	28	ю	· N	NE	10	· N	NE.	10	S	NE	10	
	29	Few	: <b>S</b>		Few	s		0	•••	. •••	0	
	30	. 2	: • 8	E	{Few {Few	(A-S)	::: }	0	•••	•••	0	
Sum.		148		•••	156	•••	to ele	130	•••	•••	151	i
Mear	1	4.9		•••	5.2	***	· · · · · · · · · · · · · · · · · ·	4:3			5.0	1

Tabulation of daily meteorological observations at Cape Flora during the month of December, 1904

Observer: Francis Long

į,					READING O	E,		Self-reg	ISTERING	Fahrenhi	eit Theri	MOMETERS	
DATE	Ane	ROID BARON	IETER	FAHREN	HEIT THER	MOMETER	8:	H	12H	20	ЭН	Mean of	Range
	8н	I2H	20Н	8н	12H	20Н	Max.	Min.	Max.	Max.	Min.	extremes	Kange
	In.	In	In.	0	0	0	o	o	0			0	•
I	29.92	30.01	30.08	- 15.2	— 16.o	— 15.o	<b>— 14.0</b>	- 20.0	14.0	- 14.0	- 18.2	— I7.0	6. <b>o</b>
2	30.02	30.01	29.92	— 16.0	— 17.o	— 15.0	- 14.0	— 16.2	- 14.2	- 12.4	18.0	— I5.2	5.6
3	29.83	29.83	29.82	— 6.5	<b>— 7.0</b>	- 9.0	5.6	18.2	- 5.0	5.0	— 10.4	11.6	13.2
4	29.79	29.82	29.84	<b>— 7.2</b>	<b>– 9.0</b>	— 8.o	- 6.1	- 11.0	- 7.2	7.2	— 10.o	- 8.6	4.9
5	29.79	29.79	29.54	— I2.0	— 12.I	<b>— 8.2</b>	<b>— 4.0</b>	— 16 <b>.</b> 0	→ 12.0	- 8.0	15.1	— 10.o	12.0
6	29.46	29.40	29.28	- 24.0	- 22.5	— 25.I	0.8	- 24.0	- 22.2	- 22.2	26.0	— 17.0	18.0
7	29.00	28.94	28.84	- 22.4	- 21.0	15.6	- 22.0	25.6	21.0	- 14:4	22.4	- 20.0	11.2
8	28.93	29.04	29.12	8.0	<b>— 10.5</b>	— 7.o	- 7.2	<b>→ 17.0</b>	— <b>8.</b> o	- 6.2	- 12.0	- 11.6	10.8
9	29.38	29.52	29.55	- 10.2	<b>— 15.0</b>	<b>— 7.0</b>	- 7.0	- 13.6	- 8.2	- 4.1	- 15.0	- 9.6	10.9
10	29.50	29.46	29.52	+ 8.0	+ 6.9	+ 5.0	+ 8.0	- 10.6	+ 8.0	+ 8.0	+ 3.0	- 1.3	18.6
II	29.40	29.39	29.36	+ 6.8	+ 4.4	+ 7.4	+ 6.8	+ 3.0	+ 6.8	+ 8:0	+ 3.0	+ 5.5	5.0
12	29.36	29.45	29.48	+ 6.5	+ 6.2	+ 5.0	+ 10.0	+ 6.9	+ 6.5	+ 7.2	+ 4.0	+ 7.0	6.0
13	29.44	29.46	29.46	+ 7.0	+ 2.4	+ 2.9	+ 13.0	+ 2.9	+ 7.0	+ 7.0	- 6.5	+ 3.2	19.5
14	29.50	29.54	29.63	+ 5.0	+ 4.6	+ 1.4	+ 13.8	— о.6	+ 6.9	+ 6.9	- I.I	+ 6.4	14.9
15	29`.58	29.62	29.66	+ 3.9	<b>— 4.0</b>	— 10.0	+ 6.7	<b>— 2.1</b>	+ 5.3	+ 5.3	11.0	- 2.2	17.7
16	29.64	29.64	29.66	<b>— 19.0</b>	- 18.1	— 15.0	- io.o	20.0	+ 17.0	15.0	- 22.2	_ 2.6	39.2
17	29.57	29.58	29.52	<b>— 14.0</b>	<b>— 14.0</b>	18.1	- 12.4	20.0	- 10.2	10.2	_ 20.0	<b>— 15.1</b>	9.8
18	29.61	29.64	29.67	<b>— 16.0</b>	- 16.2	- 20.0	— 16.o	<u> 26.0</u>	- 15.2	15.0	21.0	_ 20.5	11.0
19	29.64	29.58	29.48	<b>— 17.0</b>	— 16.0	15.o	- 16.2	- 24.9	<b>— 16.0</b>	<b>— 15.0</b>	20.0	20.0	9.9
20	29.45	29.46	29.52	•••	28.0	- 27.2			15.0	- 26.0	- 29.2	<b>— 22.</b> I	14.2
21	29.56	29.66	29.66	23.5	<b>— 23.4</b>	- 24.2	- 23.4	27.6	— 22. I	- 20.0	<b>— 24.4</b>	_ 23.8	7.6
22	29.63	29.67	29.66	- 27.2	- 27.4	- 29.0	20.0	- 28.2	27.0	- 25.2	_ 29.1	- 24.6	9.1
23	29.51	29.50	29.42	26.4	- 25.0	— 27.I	- 22.4	29.1	<b>— 24.6</b>	22.4	- 28.2	_ 25.8	6.7
24	29.41	29.44	29.50	— 30.0	30.0	- 32.0	26.5	— 30.3	<b>— 27.</b> 6	<b>— 27.</b> 6	- 32.0	29.2	5.5
25	29.54	29.54	29.62	- 29.5	— 31.o	— 28.o	- 29.0	34.1	— <b>2</b> 9.0	28.0	— <b>33.</b> 6	— 31.o	6.1
<b>2</b> 6	29.63	29.74	29.87	— 30.o	29.0	— 35.0	— <b>28.0</b>	- 34.1	29.0	29.0	— 36.o	- 32.0	8.0
27	29.90	29.94	29.90	- 27.1	— <i>2</i> 6.0	— <b>2</b> 6.3	26.6	— 37.o	20.0	<b>—</b> 18.2	28.0	- 27.6	18.8
28	29.80	29.88	29.92	- 25.2	25.0	- 27.5	<b>— 20.3</b>	- 28.0	—·23.1	23.1	29.0	- 24.6	8.7
29	29.95	30.04	29.96	25.5	20. I	<b>—</b> 15.3	- 15.4	— <i>2</i> 9.0	- 18.2	<b>— 15.3</b>	— 26.0	- 22.2	13.7
30	29.55	29.39	29.18	+ 3.0	+ 7.0	+ 12.5	+ 3.0	- 15.3	+ 7.0	+ 3.0	- 12.5	- 4.2	22.3
31	29.21	29.15	29.22	<b>— 10.5</b>	— 8.о	— 17.o	+ 12.8	<b>— 12.0</b>	<b>— 8.</b> o	- 8.0	<b>— 17.0</b>	Į	29.8
Sum	916.50	917.13	916.86	-402.2	-439.8	-442.4	280.0	—557· <b>7</b>	-332.3	<u>—346.1</u>	563.9	-429.4	394.7
Mean	29.56	29.58	29.58	13.4	- I4.2	. <del></del> 14.3	- 9.3		- 10.7	- 11.2	<b>— 18.2</b>	ł I	12.7

Tabulation of daily meteorological observations at Cape Flora during the month of December, 1904—Continued Observer: Francis Long

	<u> </u>									W	IND		··· , , · · · ·
				Precie	PITATION			. 81	<b>1</b>	12		20	н
DATE	8н	12H	20Н	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.
	In.	In.	In.	In.		h m	h m		Mi.		Mi.		Mi.
1	.00	.01	т	.01	Sª	8 50	12 20	E	180	E	69	E	98
2	.00	•00	T	T	S <sup>d</sup>	7 55	D.N.	E	167	E	65	E	103
3	.01	.00	.01	.02	$S^d$	18 10	D.N.	ENE	202	E	49	E	20
4	.01	${f T}$	.02	.03	Sd Sd	8 25 13 35	10 30 }	ESE	174	ESE	26	ESE	47
5	T	.00	.00	T				e e	114	C	0	N	97
6	.00	.00	.00	.00				NW	258	N	68	N	190
7	.00	.00	.00	.00	•••			ESE	277	NW	78	NE	179
8	.00	.00	.00	.00	•••			N	115	N	12	NE	6;
9	.00	.00	.00	.00	$S^d$	D.N.		N	249	C	39	N	152
10	.04	.05	.15	.24	$S^d$		D.N.	E	256	E	68	SE	II.
11	.01	.00	.02	.03	$S^{m}$	17 20		E	144	E	64	ESE	8
12	.40	.06	.01	.47	$S^{m}$		12 50	E	200	E	45	O	6
13	.00	.00	.00	.00	•••			ENE	164	E	50	C	2
14	.00	.00	.00	.00			·	ENE	63	ESE	52	E	4
15	.00	.00	.00	.00	• • •			NNE	57	NNE	47	G	4
16	.00	.00	.00	.00				C	4	C	9	C	
17	.00	.00	.00	.00	•••			C	5	C	1	NNE	19
18	.00	.00	.00	.00	•••			N	208	NNE	125	N	32
19	.00	т	T	${f T}$	S <sup>d</sup> S <sup>d</sup>	12 00 19 30	12 20 } 22 00 }	NW	45	NW	15	SE	3
20	.00	.00	.00	.00	•••			• • •	• • •	N	173	W	18
21	.00	.00	.00	.00				N	225	w	<b>8</b> 6	NNE	15
22	.00	.00	.00	.00				NW	272	NW	69	NW	9
23	.00	.00	.00	.00	•••			NNW	179	WNW	73	NW	15
24	.00	.00	.00	.00				NW	269	NW	64	NNE	19
25	.00	.00	.00	.00				NNE	97	NE	63	NE	8
26	.00	.00	.00	.00	•••			NE	184	NE	65	107	13
27	.00	.00	.00	.00				N	170	NW	40	NW	16
28	.00	.00	.00	.00	•••			N	250	C	95	E	11
29	.00	.00	.00	.00	•••			w	93	E	33	NE	1
30	, 12	.10	.40	.62	$\mathbb{S}^{a}$	D.N.		NW	153	WNW	84	WNW	19
31	. 15	.01	.10	.26	S <sup>d</sup>	11 15	D. N. }	E	197	E	72	Ð	1;
m	•74	.23	.71	1.68	•••			•••	4971	•••	1799		35
ean				•••	• • •			E	165.7	E	58.0	Ю	113

Tabulation of daily meteorological observations at Cape Flora during the month of December, 1904—Continued
Observer: Francis Long

					Сьо	UDS	•	- · · · · ·			
		8н			12H			20H			
Date	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
1	10	s	10	10	N	E	{ 3 4	(A-S)	E :}	8	Drifting snow 8:50 to 12:40.
2	О	*		О	*		10	N*	E	ı	Fog to 24:00.
3	10	S*	ENE	10	S*	Е	10	N*	E	9	Fog to 24:00.
4	10	S*	ESE	ю	s	ESE	10	N*	ESE	10	
5	o	•••		О	•••		10	s	N	I	Brisk north winds; drifting snow from 17:40.
6	0	•••		Few	s	B	.0		•••	0	
7	10	S	ESE	7	S	NW	10	S	NE	7	High north wind and drifting to 8:00.
8	10	S	N	{ 2 6	S-Cu S	E }	5	s	NE	7	
9	2	S-Cu	SE	Few	s	•••	10	s	N	2	:
10	10	N	E.	10	N	E	10	Ŋ	SE	10	,
II	10	S	E	10	S	E	10	N	SE	9	
12	10	N	E	10	N	E	10	S	•••	7	
13	10	S	ESE	Few	s	E	0	H		2	Light haze 13:40 to 24:00.
14	Few	S-Cu	E	Few	S	E	Few	S	•••	0	
15	0	• • •	•••	0	***		10	SH		I	Light haze 13:25 to 24:00.
16	0	н		0	H	***	•••	H	•••	I	Light haze all day.
17	Few	SH	• • • •	Few	SH	•••	0	•••	• • •	I	Light haze to 14:30; drifting snow 14:30 to 16:00.
18	Few	S	N	0	•••	•••	Ó	, .	•••	0	
19	0	•••	• • • •	10	N	NW	10	N	SE	7	
20		•••	• • • •	0	•••	•••	4	S*	W	6	Fog 14:00 to 21:00.
21	; 10	$\mathbf{s}$	N	10	S	w	<b>5</b> 3	(A-S) S	NNE }	7	Fresh brisk winds.
22	<b>3</b> 3	(A-S) S	NW NW	4 2	(A-S) S	NW }	Few	S-Cu	NW	2	Open water south and southwest.
23	{ 4 2	(A–S) S–Cu	NW NW	4 4	(A–S) S	WNW)	10	s	NW	7	
24	Few 2	(Ci–S) S	NW }	Few	S-Cu	NW	0		•••	О	
25	$\begin{cases} 4 \\ 2 \\ \text{Few} \end{cases}$	(Ci-S) (A-S) S-Cu	NE NE NE	Few 1	(A-S) S	NW }	2	Ci-S	NE	2	Open water south and southwest; lunar halo 7:30 to 10:15, 22 degrees.
26	o	•••	•••	o	•••	• • • •	0			o	Open water to south.
27	; 0	•••	•••	0	•••		0	•••		0	
28	0	• • •	• • •	o	•••		0	***	•••	0	
29	0	• • • •	•••	0	•••	•••	4	(Ci-S)H	NE	2	
30	io	N	NW	10	N	WNW	10	N	WNW	"IO	
31	10	S	E	10	N	E	4	S*	E	7	,
Sum	142	•••	•••	130	• • •		164	•••	•••	126	
Mean	4.7	• • •	•••	4.2	• • •		5.5	•••	٠	<b>'4.</b> I	

Tabulation of daily meteorological observations at Cape Flora during the month of January, 1905

Observer: Francis Long

	1							Self-re	GISTERING	FAHRENH	eir Theri	MOMETERS	<u></u>
Date	An	EROID BARO	METER	FAHREN	Reading of their Their		8	н	12H	1	он	Mean	_
	8н	12H	20Н	8н	12H	20Н	Max.	Min.	Max.	Max.	Min.	extremes	Range
_	In.	. In.	. In.		a			•	•		۰		۰
I		29.54	29.59	29.0	- 31.0	- 29.0	<b>— 16.5</b>	- 29.0	- 27.0	- 27.0	- 34.0	- 25.2	17.5
2	1	29.42	29.26	— 30.o	- 29.0	— 28.o	29.0	- 30.0	— <b>28.0</b>	— <i>2</i> 8.0	— 30.0	29.0	2.0
3		28.98	28.90	— 27·5	- 25.2	28.0	- 27.5	- 28.5	- 25.0	18.0	- 28.0	- 23.2	10.5
4		28.98	29.00 ;	— 38.o	— 34.0	- 33.4	<b>— 26.4</b>	- 41.0	- 34.0	30.0	— 38.o	33.7	14.6
5		28.96	28.94	— 31.0	— 35.o	- 34.1	- 27.5	- 35.0	- 31.0	29.4	- 37.0	- 32.2	9.5
6	1	28.87	28.90	- 20.0	— I7.0	— 19.1	- 20.0	- 39.0	- 17.0	- 14.5	- 23.2	— 26.8	24.5
7		29.14	29.18	- 32.0	- 23.0	- 21.0	— 19.1	- 33.1	- 23.0	<b>— 19.2</b>	- 34.0	— 26.6	14.9
8	1	29.38	29.38	- 30.0	- 32.0	— 31.0	— I7.3	- 30.0	<b>— 30.0</b>	- 30.0	<b>— 32.0</b>	- 24.6	14.7
9	11	29.24	29.06	- 30.0	— 28.o	- 27.0	- 29.0	- 31.5	- 24.2	- 24.2	- 30.0	- 27.8	7.3
10		28.90	28.88	- 31.0	- 28.4	- 23.2	- 28.2	- 31.8	- 27.2	— 20.I	31.0	- 26.0	11.7
11	-	28.98	28.98	- 20.0	- 22.0	- 22.2	— I4.2	- 28.0	- 16.2	- 15.4	- 22.2	- 21.1	13.8
12		29.18	29.28	20.0	— 17.5	— 18.o	- 5.2	- 22.2	— 17.0	13.0	— 20.6	— I3.7	17.0
13		29.40	29.44	- 21.0	— 18.0	- 24.0	- 15.1	- 21.0	18.0	— 18.o	- 24.0	- 19,6	8.9
14	29.47	29.52	29.58	- 29.0	— <i>2</i> 9.0	— 31.o	<b>— 16.0</b>	- 30.0	— 28.4	28.0	33.6	- 24.8	17.6
15	29.64	29.68	29.48	- 32.0	<b>— 27.0</b>	- 30.0	- 31.0	— 38.o	27.0	27.0	- 34.0	— 32.5	11.0
16	29.22	29.35	29.64	- 18.2	— 16.5	— I7.5	— 18.o	- 32.4	<b>— 12.6</b>	- 12.6	21.0	- 22.5	19.8
17	30.14	30.28	30.37	- 23.5	— 25.6	- 25.0	<b>— 16.2</b>	- 28.0	- 23.0	23.0	— <i>2</i> 9.0	- 22.6	12.8
18	30.00	29.85	29.67	— 13.0	<b>—</b> 2.0	+ 13.0	<b>— 13.0</b>	26.0	- 2.0	+ 13.0	— 13.0	- 6.5	39.0
19	29.62	29.60	29.61	+ 19.0	+ 16.0	— I.5	+ 21.0	+ 12.0	+ 19.0	+ 20.0	— I.5	+ 9.8	22.5
20	29.74	29.82	29.93	- 22.0	- 22.0	22.0	- 1.5	22.0	- 21.0	- 20.0	23.6	- 12.6	22.I
21	29.76	29.66	29.42	— 26.0	— 16.0	— I2.0	17.5	- 28.0	— 16.0	<b>— 12.0</b>	— 26.o	- 20.0	16. <b>0</b>
22	29.20	29.20	29.22	- 21.8	<b>—</b> 23.5	19.0	<b>— 12.0</b>	- 22.0	21.1	- 19.0	25.0	- 18.5	13.0
23	28.92	28.68	28.19	- 11:5	<b>—</b> 9.8	<b>— 5.0</b>	- 11.0	- 20.0	9.0	- 3.8	- 11.5	- 11.9	16.2
24	28.10	28.28	28.56	- 18.0	- 26.0	<b>— 28.0</b>	- 5.0	— 18.0	— 18.0	— 18.0	<b>— 28.0</b>	- 16.5	23.0
25	28.93	29.10	29.39	- 22.4	25.0	24.0	22.0	- 31.0	- 21.0	21.0	<b>— 27.</b> 0	26.0	10.0
26	29.55	29.66	29.82	— <b>25.</b> 6	27.0	— <i>2</i> 8.0	- 23.8	<b>— 26.</b> 6	- 23.3	- 23.3	31.0	- 27.2	7.7
27	29.83	29.85	29.68	— <b>23.</b> 5	27.0	21.0	<b>— 18.5</b>	- 32.0	- 23.5	- 21.0	27.8	- 25.2	13.5
28	28.92	28.68	28.46	— 8.o	0.0	+ 11.0	<b>— 8.</b> 0	— 28.o	0.0	+ 11.0	<b>—</b> 8.0	- 8.5	39.0
29	28.46	28.51	28.52	+ 8.0	+ 8.1	- 4.0	+ 11.0	+ 8.0	+ 9.0	+ 9.0	- 4.0	+ 3.5	15.0
30	28.40	28.42	28.45	<b>—</b> 5.0	- 4.0	o.5	+ 1.9	<b>–</b> 6.0	_ I.o	+ 6.5	— 6.o	+ 0.2	12.5
31	28.60	28.68	•••	— 5·5	— IO.2	•••	2.0	<b>—</b> 6.6	- 5.5	•••	•••	- 4.3	4.6
um	904.98	905.79	876.78	-637.5	-606.6	582.5	-456.6	<del>-774.7</del>	-542.0	-456.o	<b>—734.0</b>	595.6	482.2
ean	29.19	29.22	29.23	20.6	<b>— 19.6</b>	- 19.4	<b>— 14.7</b>	- 25.0	17.5	- 15.2	- 24.5	<b>— 19.2</b>	15.6

Tabulation of daily meteorological observations at Cape Flora during the month of January, 1905—Continued Observer: Francis Long

				Purci	PITATION					W	IND		<del></del>
_				I RECI	FITATION			-81		12	5H	2	OH ,
Date	8н	12H	20日	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.
1	In.	In..00	In.	In.		h m	h m	NE	Mi.		Mi.	TACE	Mi.
2	.00	.00	.00	.00	***			NE E	39 <b>2</b> 51	C E	7	ESE E	182
3	.00	.00	.00	,00				E	185	E	91	NNE	102
4	.00	,00	.00	.00				N	522	N	45	NE	192
5	.00	•00	.00	.00				NNE	152	NNE	70	NNE	
6	.00	${f T}$	.01	.01	S <sup>a</sup>	10 45	14 00	NE	401	E	66	E)	259
7	.00	.00	.00	.00				E	222	E	74	E	120
8	.00	.00	.00	.00				sw	230	w	65	NE	136
9	.00	.00	.00	.00				NNE	369	N	104	sw	203
ю	.00	.00	.00	.00				N	158	NE	135	NE	203
11	.00	.00	.00	.00		<b></b>		NE	309	N	184	NE	270
12	.00	.00	.00	.00				NE	320	NE	28	sw	26
13	.00	.00	.00	.00			,	С	23	E	14	C	4
14	.00	.00	.00	.00				C	2	C	o	C	ı
15	.00	•00	.00	.00				C	2	ESE	3	E	118
16	.00	•00	.00	.00				15	421	E	99	NE	179
17	.00	.00	.00	.00				E	66	C	15	E	14
18	.03	.40	.08	.51	S <sup>m</sup>	D.N.	18 30	ESE	75	NE	43	E	82
19	.00	.00	.09	.09	S <sup>m</sup>	15 30		$\mathbf{c}$	145	SE	10	SE	89
20	.40	.00	.00	.40	S <sup>m</sup>		D. N.	ESE	265	ESE	75	E	151
21	.00	.00	.00	.00	•••			NNE	70	N	47	NW	97
22	.00	.00	.00	.00	•••			w	172	$\mathbf{c}$	14	SE	23
23	.15	.20	.40	• <b>7</b> 5	S <sup>m</sup>	D.N.	18 00	E	119	E	106	ESE	302
24	.00	.00	.00	.00				NNE	220	SE	53	NW	210
25	.00	.00	.00	•00	•••			NW	372	NW	120	NW	205
26	.00	.00	.00	.00	•••			NW	292	N	98	N	100
27	.00	.00	.00	.00	•••			C	50	C	11	SE	86
28	.00	.00	.40	.40	S <sup>m</sup>	12 40		E	493	E	160	ESE	290
29	-55	.12	.09	.76	S <sup>m</sup>	 12 40	11 35 } 18 15 }	SE	328	E	125	ENE	187
30	•35	.06	.08	<b>.</b> 49	S <sup>m</sup>	D.N.	17 30	N	292	NE	118	NNE	182
31	.00	.00		Т	Sª	14 40	17 00	SE	48	SE	40	***	
um	1.48	.78	1.15	3.41	•••	••		•••	6623	•••	2028		4301
fean	•••			•••	•••			163	213.6	E	65.4	E	143.4

Tabulation of daily meteorological observations at Cape Flora during the month of January, 1905—Continued

Observer: Francis Long

						O i	server:	PRANCIS .	LONG		
		ar are Kil	" file "	, <del>,</del> .	Стог	JDS					
		8н			12H			20H	•		
DATE	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
1	0	н		o	•••		О	• • •		О	Haze 5:30 to 9:30.
2	0			o	•••		o	•••		o	
3	0	н		0	н		8	s	NNE	2	Haze 5:00 to 16:50.
4	0		,	o			o	•••	•••	0	
5	0			Few	S-Cu	NNE	О	• • •	•••	o	Open water south of Cape Flora.
6	10	s	NE	10	N*	Ð	ю	S*	E	10	Fog 9:35 to 21:00.
7	{ 4 2	(A-S) S*	E {	4	s	E C	o			3	Fog 5:30 to 10:00.
8	Few	S-Cu	sw	Few	S-Cu	w	10	s	NE	4	
9	0			Few	s	•••	10	s	sw	2	
10	10	S	N	10	s		10	s		10	
11	0			Few.	S-Cu		Few	S-Cu	•••	o	
12	Few	&-Cu		Few	s	•••	0	н		o	Haze from 13:40.
13	Few	SH		Few	s	•••	0	• • •	• • •	o	Lunar halo 15:00 to 16:10, 22 degrees in south-southeast.
14	0		•••	o	•••		0	•••	•••	0	
15	0			Few	s	• • • •	{ 4 I	(Ci–S) S	E }	2	
16	§ 2	(A-S)	E {	10	S	E	2	(Ci-S)	NE	4	
17	3	S		o	•••		. 0	•••		o	Lunar halo 21:10 to 22:00, about 30 degrees.
18	10	N	ESE	10	N	NE	10	S	E	10	, , ,
19	ю	s*		10	s*		10	N*	SE	10	Fog from 5:00.
20	10	S*	ESE	10	s	ESE	0	•••		6	Fog to 10:30; drifting snow to 9:00.
21	2	S	E	Few	s	E	10	S*	NW	2	Fog from 18:00.
22	0			Few	s		{Few {Few	(A-S)	E }	2	
ი <b>23</b>	10	N*	E	10	N*	E	10	S*	ESE	10	Fog from 5:00; barometer 28.19 inches a 18:00; drifting snow 9:50 to 18:00.
0; 24	10	S*	NNE	IO	S*	SE	10	S*	NW	10	18:00; drifting snow 9:50 to 18:00. Fog all day.
25	10	S*		10	S*	NW	0			7	Fog to 15:00; drifting snow.
, -3 26	10	S*	NW	o	•		o			2	Heavy water clouds rising in south.
27	О	•••	,	o	•••		IO	s	SE	3	
28	10	s	Ð	10	S	E	10	N	ESE	10	Drifting snow.
29	10	N	SE	10	8	Æ	10	s	ENE	10	in
30	10	N	N	10	N	NE	10	s	NNE	10	Drifting snow to 17:00.
31	10	8	SE	10	S	SE	•••	• • •	•••	10	
Sum	143	•••	•••	134	•••		145	•••		139	
Mean	4.6	•••		4.3	•••		4.8	•••		4.5	

Tabulation of daily meteorological observations at Cape Flora during the month of February, 1905

Observer: Francis Long

DATE	8н	roid Barom	ETER	FAHREN	Reading of heit Ther	F							
	In.	12H		8H 12H 20H			8:	H	12H	20	ЭН	Mean of	D
			20H	8н	12H	20H	Max.	Min.	Max.	Max.	Min.	extremes	Range
2	28.92	In 29.00	In. 29.14	— 10.0	— 13.0 <sup>°</sup>	。 — 22.0	- 10.0	- 19.0	- IO.0	- 10.0	。 — 22.0	- 16.o	° 12.0
- 11	29.18	29.24	29.32	+ 6.0	+ 10.0	+ 3.0	+ 6.0	- 23.0	+ 10.0	+ 10.0	0.0	6.5	33.0
3	29.34	29.40	29.48	+ 3.5	- 1.5	— 10.8	+ 6.0	+ 1.0	+ 3.8	+ 3.8	11.0	- 2.5	17.0
4	29.41	29.36	29.26	- 2.5	<b>— 1.4</b>	- 1.0	+ 5.0	- 14.0	0.0	0.0	- 4.0	- 4.5	19.0
5	29.20	29.16	29.12	- 6.5	- I.5	+ 1.8	0.0	10.2	0.0	+ 1.8	<b>— 10.0</b>	- 4.2	12.0
6	29.12	29.15	29.22	— 8.o	- 8.4	— 14.o	+ 1.8	- 10.0	— 8.о	— 8.o	15.0	- 6.6	16.8
7	29.23	29.24	29.26	<b>— 23.0</b>	- 23.5	<b>— 4.5</b>	<b>— 14.0</b>	- 25.0	- 20.0	<b>— 3.0</b>	25.0	<b>— 14.0</b>	22.0
8	29.36	29.42	29.52	+ 1.5	+ 2.0	- 2.0	+ 1.5	- 10.0	+ 2.0	+ 2.0	- 2.5	- 4.0	12.0
9	<b>29.</b> 46	29.46	29.49	- 3.5	<b>−</b> 5.0	<b>— 9.2</b>	+ 2.0	_ 5.0	<b>— 3.0</b>	- 3.0	<b>—</b> 9.6	- 3.8	11.6
ю	29.46	29.52	29.58	- 8.2	- 7.2	16.0	- 6.2	- 10.o	- 7.2	- 7.2	_ I7.I	- 11.6	10.9
11	29.63	29.69	29.82	<b>— 14.0</b>	- 7.4	— 10.0	- 6.2	— 19. <b>0</b>	- 7.1	_ 5.o	- 11.2	<b>— 12.0</b>	14.0
12	29.78	29.81	29.82	- 19.5	_ 20.0	22.4	9.9	- 25.0	— <b>18.</b> 6	— 18.6	29.0	<b>— 19.4</b>	19.1
13	29.66	29.66	29.65	— 22.0	<b>— 25.0</b>	— 26.o	- 17.2	- 28.5	_ 15.1	15.1	29.0	- 22.0	13.9
14	29.64	29.68	29.78	— 20.0	20.0	- 21.4	- 20.0	— 31.o	_ 20.0	- 18.2	- 25.0	- 24.6	12.8
15	29.86	29.95	29.92	- 20.0	<b></b> 19.0	<b>— 14.0</b>	20.0	28.0	— 16.0	- 10.0	- 22.0	- 19.0	18.0
16	29.67	29.64	29.46	9.2	9.5	- 9.0	- 9.2	<b>— 18.0</b>	_ 9.0	_ g.o	- 12.2	<b>— 13.5</b>	9.0
17	29.23	29.22	29.28	+ 6.0	+ 6.0	+ 6.0	+ 6.0	_ 9.0	+ 6.0	+ 7.2	+ 5.8	— o.9	16.2
18	29.28	29.32	29.35	+ 3.2	+ 3.0	- 3.0	+ 6.2	+ 3.0	+ 3.8	+ 3.8	- 3.0	+ 1.6	9.2
19	29.40	29.42	29.48	<b>— 4.0</b>	— I.O	- 1.0	+ 2.0	_ 8.o	0.0	+ 0.8	5.0	- 3.0	10.0
20	29.54	29.58	29.64	- 5.2	+ 1.5	<b>–</b> 5.0	+ 2.0	— II.6	+ 3.0	+ 3.0	- 8.2	- 4.3	14.6
21	29.64	29.65	29.52	— 10.o	— I5.0	_ 6.o	+ 3.4	- 11.0	_ 8.6	_ 6.o	20.1	- 8.4	23.5
22	28.88	28.82	28.60	<b>—</b> 3.0	<b>—</b> 5.0	0.0	_ 2.5	- 13.6	_ I.4	0.0	- 7.2	- 6.8	13.6
23	28.62	28.78	29.12	- 7.0	— 10.o	- 8.o	+ 1.9		- 7.0	- 7.0	- 9.1	- 3.6	11.0
24	29.58	29.71	30.00	— 16.0	16.o	21.0	- 7.0	- 17.0	15.1	- 14.2	1	- 14.0	14.0
25	30.02	30.00	29.82	- I7.0	<b>— 11.0</b>	- 12.0	<b>— 12.6</b>	1	II.O		1		14.0
26	29.52	29.42	29.35	— 10.0	— 12.0	<b>— 4.0</b> .	- 8.0	— I2.0				1	8.0
27	29.14	29.12	29.04	+ 6.0	+ 5.0	+ 5.0	+ 6.0	1					19.2
28	29.12	29.26	29.26	+ 3.5	+ 4.0	— 10.o	+ 5.0						15.0
sum	822.89	823.68	824.30	-208.9	200.9	-236.5	- 88.o	·[				·	421.4
dean	29.39	29.42	29.44	— 7·5	- 7.2		_ 3.I				1		15.1

Tabulation of daily meteorological observations at Cape Flora during the month of February, 1905—Continued Observer: Francis Long

				Dantor	PITATION					W	IND		
D				FRECI.	PITATION			8:	Ħ	12	H	20	ЭН
Date	8н	<b>12</b> H	20Н	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.
r	In00	In.	In.	In.		h m	h m		Mi. 270	Ю	Mi. 24	E	Mi. 51
2	.00	.02	10.	.03	Sa	10 00	13 30	ESE	175	E	50	E	84
3	.00	.00	.00	.00			<b></b>	E	151	NE	45	C	8
4	.00	.00	.18	.18	S <sup>m</sup>	13 25	20 15	ENE	86	NE	48	E	160
5	T	.00	.00	.00				NE	203	NE	55	E	188
6	.00	.00	.00	.00	• • •			E	130	E	24	Ç	1
7	.00	.00	.00	.00	S <sup>d</sup>	21 30		C	5	w	14	10	28
8	.04	${f T}$	.00	.04	S <sup>d</sup>		9 30	E	42	E	46	NE	12
9	.00	.00	.00	.00				ESE	145	Ė	49	E	102
10	.00	.00	.00	.00				ESE	176	ESE	46	C	14
nt c 11	.00	.00	.00	.00				E	76	E	26	SE	87
12	.00	.00	.00	.00	•••		•• ••	С	49	E	5	C	2
13	.00	.00	.00	.00	•••		•• ••	NE	73	NE	100	C	52
14	.00	.00	₹ .00	.00	•••			. Е	104	Ю	69	SE	130
15	.00	00	· FT * • <b>00</b>	.00	•••			ESE	181	ESE	. 64	ESE	220
16	.00	,00	.00	.00	•••			SE	373	ESE	131	ESE	252
17	.00	.00	.00	.00	• • •			SE	429	ESE	142	ESE	260
18 Island	, <b>00</b>	.00	.00	.00	•••		•• •• ;	ESE	318	ESE	67	E	85
19	۰00	00	.00	.00	•••			E	248	E	77	E	183
20	00	.00	.00	45: <b>.00</b>	•••		•• ••	C	195	NE	45	N	123
21	.00	.00	.00	<sup>∌€</sup> .00	• • •			SE	149	C	3	ENE	49
22	.00	.06	.04	. IO	$S^{m}$	13 30	19 55	E	303	E	114	SE	142
23	.06	.00	.30	.36	$\mathbb{S}^{m}$	D. N.	•• •• .	.NW	122	NW	111	NW	361
24	.25	.00	,00	.25	$\mathbb{S}^{m}$		D.N.	NW.	288	$\mathbf{N}\mathbf{W}$	117	NW	187
25	.00	.00	.00	.00				C	78	ENE	18	E	183
26	.25	. 10	.40	•75	$\mathbb{S}^{m}$	D.N.	** **	E	477	E	130	E	287
27	.30	.08	.24	.62	S <sup>m</sup>		17 30	ENE	257	ENE	. 86	E	216
28	.00	.00	•00	.00	***		•• ••	C	46	C	3	NNE	115
Sum	.90	.26	1.17	2.33	• • •		•• ••		5149		1709		3582
Mean			• • •	•••		ļ	••	163	183.9	Ð	61.0	Ю	127.9

Tabulation of daily meteorological observations at Cape Flora during the month of February, 1905—Continued
Observer: Francis Long

1					Crou	DS					
		8н			12H			20Н			
DATE	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
1	10	s	E	ю	s	• • •	o	•••	•••	6	
2	10	S*	ESE	10	N*	E	o	*	•••	8	Fog from 1:20; drifting 10:00 to 14:00.
3	10	S	Ð	9	s	E	o	•••		5	
4	10	s*	ENE	10	S*	NE	10	N*	E	10	
5	o	• • •	•••	o	•••	•••	4	(A-S)	E	2	
6	10	S*	E	10	S*	E	0	*	•••	9	Fog 4:00 to 20:40.
7	Few	S	E	2	S	E	10	8*	E	5	Fog from 13:10.
8	10	N*	E	10	S	E	10	S*	NE	10	Fog 10:00 to 20:20.
9	{ 5 2	(A-S) S	E }	10	S	E	{ 3 3	(A-S) S	E { E }	8	Drifting snow 11:15 to 11:40.
10	10	s*	ESE	{ 4 5	(A-S) S	E }	o	•••	•••	9	Fog 4:30 to 10:00.
11	{ 4 4	(A-S) S	E E	5 5	(A-S) S	E }	4	(A-S)H	SE	8	Lunar halo 18:20 to 19:00; haze 19:00 to 23:30.
12	{ 4 2	(A-Cu) S	E }	0		•••	o	•••	•••	o	
13	o	•••		0	•••	•••	o	• • •	•••	О	Drifting snow.
14	Few	s	IE)	0		•••	o	•••	•••	o	Lunar halo from 18:30.
15	o	•••	• • •	} I	(A-S) S	ese }	0	•••	•••	О	Lunar halo to 2:00; also 17:30 to 18:40, 22 degrees.
16	10	s	SE	{Few	(A-Cu) S	ESE }	10	s	ESE	4	Drifting snow and high east to southeast winds.
17	10	S*	SE	10	S*	ESE	{ 4 5	(A-Cu) S*	ESE }	- 10	Fog from 5:00; drifting snow.
18	10	ន	ESE	5	(A-S)*	ESE	Few	(Ci-S)	E	7	Lunar halo 19:30 to 21:30; fog to 5:00 and 9:15 to 16:30.
19	Few	S-Cu*	E	Few	(A-S)*	Ð	Few	S-Cu	E	1	Full moon.
20	Few.	S	E	0	•••	•••	0	•••	•••	o	
21	Few	(A-S)	E	Few	(A-S)	E	0	•••	•••	o	
22	10	S*	E		**	•••	10	S	SE	10	Foggy all day.
23	10	N*	NW	10	N*	NW	10	N*	NW	10	Foggy all day; drifting snow.
24	10	S*	NW	10	S*	NW	0	•••	•••	6	Fog to 13:30; drifting snow to 17:00.
25	Few	S	E	} 5	(A-S) S	E }	10	s	E	7	Open water south and west.
<b>2</b> 6	10	N*	E	10	N*	E	. 10	N*	Е	10	Fog from 5:00; heavy drifting.
27	10	N*	ENE	10	N*	ENE	ю	S	Е	10	Fog to 17:00; drifting snow to 17:40.
28	10	8		10	s		0	***	•••	8	Drifting snow from 18:30.
Sum	181	•••	•••	167	•••	•••	113	•••	•••	163	
Mean	6.5	•••	•••	6.2	•••	•••	4.0	•••	•••	5.8	

Tabulation of daily meteorological observations at Cape Flora during the month of March, 1905

Observer: Francis Long

		<u></u>	<del>.</del>		, · ·	70EV. IRAN	<u> </u>	SELF-REG	ISTERING ]	FAHRENHI	er There	MOMETERS	·. ··.
DATE	Ane	ROID BAROM	ieter		Reading of heit Ther		81		12H		он	Mean	
	8н	12H	20Н	8н	12H	20H	Max.	Min.	Max.	Max.	Min.	of extremes	Range
	In.	In.	In.	o	0	•	0	. 0	0	۰			0
1	29.62	29.74	29.84	20.0	— 18.o	22.0	<b>—</b> 9.6	- 21.0	— 18.o	- 15.6	25.0	- 17.3	15.4
2	29.64	29.54	29.40	16.5	<b>— 12.0</b>	— 8.o	<b>— 16.5</b>	- 23.2	12.0	— 8.о	- 17.2	<b>— 15.6</b>	15.2
3	29.48	29.48	29.65	<b>→</b> 7.5	- 8.9	— 10.0	- 4.0	13.6	— 7.o	6.2	- 10.0	8.8	9.6
4	29.64	29.42	29.36	+ 1.0	+ 8.0	— 16.0	+ 1.0	- 11.0	+ 8.0	+ 18.0	— 16. <b>o</b>	+ 1.0	34.0
5	29.41	29.50	29.62	- 17.0	- 13.0	14.0	- 16.0	- 24.0	- 12.9	<b>— 12.2</b>	<b>— 18.0</b>	- 18.1	11.8
6	29.76	29.82	29.84	- 23.0	20.0	- 11.0	14.0	- 26.0	19.8	— 11.0	- 23.0	18.5	15.0
7	29.52	29.38	29.10	- 11.o	- 7.0	— з.о	— IO.O	— 12.2	- 7.0	- 3.0	— 10.0	<b>— 7.</b> 6	9.2
8	29.10	29.16	29.28	<b>— 7.0</b>	- 8.5	— 14.0	- 1.2	<b>— 7.0</b>	- 7.0	7.0	- 14.2	- 7.7	13.0
9	29.37	29.52	29.66	- 22.2	21.0	- 22.0	<b>— 13.</b> 6	- 22.4	- 21.0	- 19.0	- 23.0	- 18.3	9.4
10	29.76	29.84	<b>29.7</b> 6	<b>— 26.0</b>	- 25.0	24.2	- 21.0	30.0	- 22.0	21.0	- 29.0	- 25.5	9.0
11	29.52	29.58	29.58	+ 4.0	+ 5.2	+ 9.9	+ 4.0	25.0	+ 6.1	+ 10.0	+ 3.1	- 7.5	35.0
12	29.51	29.50	29-49	+ 6.0	+ 5.2	+ 4.0	+ 11.0	+ 6.0	+ 6.9	+ 7.0	+ 1.0	+ 6.0	10.0
13	29.45	29.39	29.34	+ 5.0	+ 1.0	_ r.o	+ 7.9	+ 1.0	+ 5.2	+ 5.2	- 3.9	+ 2.0	11.8
14	29.38	<b>2</b> 9.46	29.60	+ 2.0	+ 4.0	- 7.2	+ 3.0	<b>— 3.0</b>	+ 4.0	+ 4.0	— 8.o	- 2.0	12.0
15	29.78	29.90	29.94	<b>— 12.0</b>	11.0	- 7.0	- 7.2	<b>— 14.1</b>	- 11.0	<b>—</b> 6.о	- 12.0	10.0	8.1
16	29.95	30.02	30.09	— I.O	+ 4.0	- 1.0	0.0	— 10.o	+ 4.1	+ 4.0	- 5.0	<b>— 3.0</b>	14.1
17	30.12	30.14	30.14	0.0	- 1.8	- 7.0	+ 2.2	— 10.1	+ 1.4	+ 2.0	- 7.0	- 4.0	12.3
18	30.03	30.08	30.09	- I7.0	<b>— 16.0</b>	<b>— 19.0</b>	- 5.2	<b>— 20.0</b>	<b>— 12.3</b>	— 12.3	- 21.0	- 13.1	15.8
19	30.06	30.08	30.02	12.8	- 12.0	- 8.2	- 12.5	20.2	- 10.0	- 8.2	<b>— 12.8</b>	<b>— 14.2</b>	12.0
20	29.76	29.72	29.59	- 11.0	<b>— 9.2</b>	0.0	<b>— 7.6</b>	- 12.4	- 9.0	0.0	— 13.0	- 6.5	13.0
21	29.48	29.54	29.59	+ 10.0	+ 9.2	- 10.8	+ 10.0	<b>— 1.0</b>	+ 11.0	+ 11.0	— 10.8	+ 0.1	21.8
22	29.62	29.69	29.78	- 2.5	0.0	- 3.0	2.5	<b>— 14.6</b>	0.0	+ 1.2	- 3.0	- 6.7	15.8
23	29.64	29.63	29.69	+ 22.5	+ 22.0	+ 25.0	+ 22.5	<b>—</b> 6.0	+ 23.4	+ 25.0	+ 18.0	+ 9.5	31.0
24	29.56	29.54	29.43	+ 24.0	+ 32.0	+ 33.0	+ 26.0	+ 21.0	+ 32.0	+ 33.0	+ 23.0	+ 27.0	12.0
25	29.62	29.57	29.46	+ 26.0	+ 25.0	+ 27.2	+ 33.0	+ 18.0	+ 26.5	+ 27.2	+ 23.0	+ 25.5	15.0
26	29.40	29.52	29.54	+ 14.9	+ 11.1	+ 3.0	+ 27.2	+ 12.1	+ 17.0	+ 17.0	+ 3.0	+ 15.1	24.2
27	29.85	30.02	30.11	<b>— 20.0</b>	23.0	<b>— 27.0</b>	+ 3.0	- 21.0	20.0	17.6	27.0	- 12.0	30.0
28	30.00	29.98	29.84	17.5	— 14.2	<b>— 14.8</b>	— 17.5	- 27.0	- 14.0	- 10.0	- 18.0	- 18.5	17.0
29	29.62	29.66	29.76	- 5.2	<b>— 7.8</b>	24.0	<b>—</b> 5.2	- 17.2	- 4.5	4.5	- 24.0	<b>— 14.2</b>	19.5
	29.76	29.77	29.80	— 25.0	— 25.0	30.0	- 22.0	— 30. ī	- 25.0	- 25.0	<b>— 30.0</b>	<u> 26.0</u>	8.1
, 30		29.78	29.72	27.0	20.0	29.0	27.0	36.2	- 20.0	- 14.4	- 29.0	- 25.3	21.8
, 31	29,78	919.97	920.11	-185.8	-146.7	-231.1	<b>— 61.8</b>	-400.2	— <u>106.9</u>	- 36.4			501.9
Sum	919.19	29.68	29.68	6.0	- 4.7	- 7.5	_ 2.0	<b>— 12.9</b>		Į.		1	i
Mean	29.65	29.00	29,00	]	7.,	., ,,,,		<u> </u>	1	1		1	1

Tabulation of daily meteorological observations at Cape Flora during the month of March, 1905—Continued Observer: Francis Long

				Dowlar	PITATION					W	IND		
				PRECI	PITATION			8:	н	T:	2H	2	он ,
DATE	8н	12H	20日	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.
	In.	In.	In.	In.		h m	h m		Mi.		Mi.		Mi.
1	.00	•00	.00	.00	• • •	•• ••		sw	434	,N	84	C	. 56
2	.00	.00	.00	.00	•••		•••	E	92	E	144	ENE	176
3	.00	.00	.00	.00	•••	•• ••		NE	204	C	30	w	98
4	.00	T	.15	.15	S <sup>m</sup>	11 30	16 30	NE	77	sw	131	NW	33
5	.00	.00	.00	.00	***	••••	,	WNW	333	WNW	102	W	220
6	.00	.00	.00	. (•00	•••	•• ••		C	160	sw	25	ESE	123
7	, <b>,0</b> 0	.00	.00	.00	•••			E	468	E	170	E	340
8	.25	.04	T	.29	S <sup>m</sup>	D.N.		SE	320	SE	58	Е	48
9	00	.00	.00	00	S <sup>m</sup>		0 40	NE	249	NE	141	NE	80
10	00	.00	.00	.00	•••			С	18	C	13	· C	I
11	.00	·00·	.28	.28	S <sup>m</sup>	. 13 40	D.N.	ESE	282	ENE	110	E	246
12	.25	.00	.00	.25	•••			Æ	380	E	118	TC	242
13	.00	.00	.00	.00	•••		·	E	314	ENE	110	ESE	164
14	.12	.04	.00	.16	S <sup>m</sup>	D.N.	. 11 30	C	40	N	8	N	130
15	.00	.00	.00	00	•••		,	ŊW	302	$\mathbf{N}\mathbf{W}$	40	ssw	33
16	.00	.01	.01	.02	S <sup>m</sup>	10 40	13 00	c	20	WNW	15	C	35
17	.00	•00	.00	.00	• • • • • • • • • • • • • • • • • • • •			NE	43	NE	82	E	130
18	.00	.00	.00	.00				s	48	C	12	Ē	6
19	.00.	.00	.03	.03	· Sª	17 30	22 50	NW	2	NW	20	WNW	40
20	.02	.00	.00	.02	•••	;		C	51	wsw	14	NE	47
21	•45	.01	00	.46	S <sup>a</sup>	D.N.	8 45	NW	44	NW	31	·NW	59
22	.04	.00	.00	.04	S <sup>d</sup>	5 00	.9 15	E	16	E	32	C.	7
23	.00	.00	.00	.00	• • .•			E	141	E	34	ENE	. 88
24	.25	T	.02	.27	S <sup>m</sup> R	4 00 13 30	8 30 } 21 30 }	ENE ·	81	wsw	29	w	94
25	$\mathbf{T}$	т	.04	.04	S <sup>m</sup>	11 30	18 30	NW	160	NW	27	NW	50
26	.00	.00	.03	.03	S <sup>m</sup>	16 30	19 40	NW	125	· <b>c</b>	<b>3</b> 6	C	14
27	.00	.00	.00	.00	•••			NE	243	NE	100	c	81
28	.00	.00	.00	.00	•••			NW	111	N	16	C C	24
29	.00	.00	.00	.00				N	42	N	35	NNW	118
30	.00	.00	.00	.00				N	130	NW :	57	N	100
31	.00	.00	.00	.00	•••			C	25	N	7	W	65
um	1.38	. IO	.56	2.04					4955		1831		<del></del>
1ean		•••	•••	•••				E	159.8	E	59.1	E	2948 95 I

Tabulation of daily meteorological observations at Cape Flora during the month of March, 1905—Continued

Observer: Francis Long

		<del></del> _			Crot	IDO				1	
	ļ	8н		1		- Da					
Date		1	1	<u> </u>	12H			20H		ly ss	Remarks
	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	·
ı	o	•••		o	<b>b</b> .a. p		o o			o	Drifting snow to 6:30.
2	<b>5</b> 5	(A-S) S	E	10	S	E	ΙÓ	s	ENE	ю	
3	Few	(A-S)	E	О	•••	•••	o			o	
4	5 4	(A-S) S	NE }	10	N*	sw	0	•••		9	Drifting snow from 17:30.
5	10	S	NW	4	S-Cu*	www	o	•••		4	Heavy gales and drifting snow; fog 10:30 to
6	0	•••		10	S	W	10	S	ESE	8	14:00.
<i>7</i> 8	10	S* N	E SE	10	S* N	E	10	S* S	E) E)	10	Generally foggy; gales and drifting snow.
9	2	S-Cu	NE	Few	(A-Cu)	NE	0			10	Drifting snow to 9:00.  Drifting snow to 13:30.
10	Few	s		o	***		4	(A-S)H	N	I	Haze from 18:40.
11	{ 2 3	'(A-Cu) S-Cu	SE SE	4	(A-Cu) S-Cu	E }	IO	. <b>N</b>	E	7	Drifting snow to 12:00.
12	{ 4 4	(A-Cu) S-Cu	E }	10	s	E	{ 5 2	(A-S) S	E }	8	High wind and drifting snow to 17:00.
13	3 5	'(A-S)	10	4 2	(A-Cu) S-Cu	E }	9	s	NE	7	× *
14	10	N		IO	s		o			6	
15	0			Few	(A-Cu)	NE	{ 2 6	(A-Cu) S-Cu	SSW (	I	;
16	10	s		ю	N*	•;••	Few	(Cu)	E	8	Variable winds.
17	{ 4 2	(A-Cu) S-Cu	NE NE	6 Few	(A−Cu) A−Cu	NE }	3 2 Few	(Ci–S) '(A–S) S–Cu	E E E	5	
18	0	•••		Few	(A-S)	N	4	(A-S)	E	o	Light variable winds.
19	3 2 Few	(Ci–S); (A–S) S	N N N	{ 4 2	(Ci–Cu) (Cu)	N }	10	N*	•••	8	Fog from 16:00.
20	{ 3 2 2 2	(Ci-Cu) (A-S) S	s }	10	s		10	s*		9	Fog 10:00 to 11:30; 16:30 to 24:00; light variable winds.
21	10	N*	NW.	{ 3 4	(Cu) · S-Cu	N N	3 3	(A-S) S	NW }	8	•
22	10	N		10	S	Е		**	•••	10	Fog from 15:00; light variable winds.
23	10	S	E	9	S	s	10	S*	•••	10	Fog 10:00 to 11:15 and 15:30 to 24:00.
24	10	N*	37337	10	S*	a, a .	10	N*	•••	10	Fog to 22:30.
25	ю	, 8	NW	10	N:	w	10	<b>S</b> *	•••	10	Fog from 14:30.
26	<b>\}</b> 4 4	(A-Cu) S-Cu	NW }	$\left\{\begin{array}{c}2\\2\\2\end{array}\right.$	(Ci–Cu) (A–Cu) S–Cu	w }	10	s	•••	8	Fog 15:00 to 23:50.
27	0	•••	•••	0	•••	4	, 0	(4.9)		0	Open water southwest.
28	o	•••		Ö	•••	•••	{ 5	(A-S) S	N }	. 1	
29	{Few {Few	(Ci-S) S	N { E }	o	•••	•••	o	•••		0	
30	0	* * *	***	o	•••	•••	0	•••		0	
31	0		· • • • • • • • • • • • • • • • • • • •	0		***	0			0	
Sum	168	, •••	•••	169	•••	•••	159	• • •	•••	168 5.4	
Mean	5.4	•••	•••	5-5	***	• • •	5.3	•••	•••	3.4	

Tabulation of daily meteorological observations at Cape Flora during the month of April, 1905

Observer: Francis Long

					READING O	nt <sup>3</sup>		SELF-REG	ISTERING	Fahrenhi	eit Theri	MOMETERS	
Date	Ani	EROID BAROI	METER	FAHREN	HEIT THER	MOMETER	8	н	12H	20	он	Mean of	Range
	8н	12H	20H	8н	12H	20H	Max.	Min.	Max.	Max.	Min.	extremes	Kange
	In.	In.	In.		۰	٥	۰				٥	•	0
I	29.66	29.67	29.70	- 33.0	30.0	- 23.0	25.0	<b>— 34.8</b>	- 30.0	- 29.0	- 33.0	- 29.9	9.8
2	29.69	29.70	29.75	— <u>3</u> 6.0	— 33.0	40.0	— 3o.o	- 39.2	- 33.0	- 29.2	- 40.0	— 34.6·	10.8
3	29.72	29.74	29.74	— 35.0	- 31.0	- 38.0	35.0	43.0	<b>— 30.5</b>	26,2	<b>— 38.0</b>	- 34.6	16.8
4	29.66	29.52	29.36	28.0	— 29.0	6.0	- 28.0	40.5	- 19.0	6.0	29.0	- 23.2	34.5
5	29.47	29.54	29.52	+ 3.0	+ 6.0	+ 9.0	+ 4.0	- 6.0	+ 8.4	+ 13.4	+ 3.2	+ 3.7	19.4
6	29.70	29.82	29.84	+ 5.2	+ 4.6	+ 3.5	+ 9.0	+ 4.6	+ 5.2	+ 5.2	+ 2.0	+ 5.5	7.0
7	29.78	29.78	29.86	+ 6.0	+ 8.4	+ 17.0	+ 10.0	+ 1.2	+ 8.5	+ 18.5	+ 6.0	+ 9.8	17.3
8	30.06	30.17	30.22	+ 21.2	+ 20.0	+ 13.0	+ 22.0	+ 16.0	+ 22.4	+ 22.4	+ 12.9	+ 17.6	9.5
9	30.30	30.38	30.50	+ 11.0	+ 13.0	+ 14.0	+ 14.2	+ 9.0	+ 13.0	+ 17.0	+ 11.0	+ 13.0	8.0
10	30.66	30.76	30.78	+ 4.0	+ 5.0	+ 7.2	+ 14.0	+ 4.0	+ 5.0	+ 7.2	+ 2.2	+ 8.1	111.8
II	30.78	30.82	30.78	- 1.0	+ 3.0	- 4.5	+ 7.5	- 8.0	+ 5.0	+ 7.6	<b>— 5.0</b>	- 0.2	<b>15.</b> 6
12	30.68	30.71	30.64	- 4.0	+ 5.0	- 5.0	+ 2.0	0.11	+ 5.0	+ 9.0	— 5.o	- 1.0	20.0
13	30.54	30.56	30.48	- 6.0	+ 4.5	+ 8.4	- 5.0	10.0	+ 4.5	+ 8.4	- 8.0	- o.8	18.4
14	30.24	30.18	30.00	+ 6.0	+ 10.0	+ 17.6	+ 12.2	+ 2.0	+ 10.0	+ 17.6	+ 4.2	+ 9.8	15.6
15	29.96	29.97	29.96	+ 21.0	+ 23.0	+ 23.4	+ 22.0	+ 15.0	+ 23.0	+ 26.8	+ 20.0	+ 20.9	11.8
16	30.14	30.24	30.28	+ 6.0	+ 3.0	+ 0.2	+ 23.5	<b>— 1.0</b>	+ 6.0	+ 7.0	- 2.0	+ 10.8	25.5
17	30.25	30.27	30.32	- 2.0	- 1.0	+ 1.2	+ 2.6	- 3.0	+ 1.2	+ 7.0	- 2.0	+ 2.0	10.0
18	30.16	30.14	30.01	<b>— 2.0</b>	- 2.0	- 3.0	+ 1.2	— II.o	0.0	0.0	- 3.0	- 4.9	12.2
19	29.92	29.97	29.98	+ 2.0	+ 4.4	+ 2.0	+ 2.2	- 5.6	+ 6.2	+ 6.2	+ 1.0	+ 0.3	11.8
20	30.04	30.10	30.18	+ 3.9	+ 6.0	+ 4.0	+ 5.0	0.0	+ 6.8	+ 12.5	+ 3.0	+ 6.2	12.5
21	30.20	30.26	30.30	- 1.2	+ 4.0	- 2.5	+ 3.0	- 11.0	+ 4.8	+ 5.8	— з.о	- 2.6	16.8
22	30.28	30.34	30.34	<b>— 3.0</b>	0.0	+ 1.0	- 2.5	<b>— 7.0</b>	0.0	+ 7.8	<b>— 4.0</b>	+ 0.4	14.8
23	30.32	30.34	30.34	- 2.5	+ 2.9	+ 1.0	+ 1.0	- 4.6	+ 3.0	+ 7.6	- 2.5	+ 1.5	12.2
24	<b>30.</b> 36	30.41	30.44	+ 3.6	+ 9.0	+ 3.0	+ 3.0	— 6.0	+ 9.0	+ 13.0	+ 3.6	+ 3.5	19.0
25	30.44	30.46	30.38	- 1.2	+ 4.0	+ 2.2	+ 3.5	- 2.0	+ 4.0	+ 6.7	— 1.2	+ 2.4	8.7
26	30.17	30.10	29.95	+ 1.0	+ 4.5	+ 17.0	+ 5.0	0.0	+ 4.5	+ 17.0	+ 1.0	+ 8.5	17.0
27	29.82	29.84	29.87	+ 23.0	+ 27.0	+ 29.0	+ 24.0	+ 17.0	+ 27.0	+ 29.6	+ 23.0	+ 23.3	12.6
28	29.92	29.98	30.03	+ 29.0	+ 28.5	+ 27.9	+ 30.0	+ 24.2	+ 30.0	+ 30.0	+ 27.9	+ 27.1	5.8
29	29.93	29.90	29.90	+ 25.0	+ 24.5	+ 31.5	+ 28.0	+ 23.1	+ 25.0	+ 32.0	+ 23.0	+ 27.5	9.0
30	29.90	29.94	29.96	+ 30.0	+ 29.5	+ 31.0	+ 32.0	+ 23.9	+ 31.1	+ 33.0	+ 28.0	+ 28.4	9.1
Sum	902.75	903.61	903.41	+ 46.0	+123.8	+132.1	+155.4	—103.7	+156.1	+277.9	- 3.7	+ 98.5	423.3
Mean	30.09	30.12	30.11	+ 1.5	+ 4.1	+ 4.4	+ 5.2	<b>— 3.5</b>	+ 5.2	+ 9.3	- o.1	+ 3.3	14.1

Tabulation of daily meteorological observations at Cape Flora during the month of April, 1905—Continued

Observer: Francis Long

				Paren	PITATION					W	IND		
District				r krei	TIAIIUN			81		12	н	20	
Date	8н	12H	20H	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.	Direction	Wind mov.
1	In	In.	In.	In.		h m	h m	w	. <b>Мі.</b> 93	sw	Mi. 32	NE	Mi.
2	.00	.00	.00	.00	•••			NE	95	C	60	$\mathbf{c}$	
3	.00	.00	.00	.00	•••			G.	13	C	0	C	
4	.00	.00	.00	.00	•••			E	16	NE	88	SE	3
5	.00	.00	.00	•00	•••			SE	323	SE	154	SE	2
6	.00	.00	.00	.00	•••			SE	318	ESE	102	ESE	1
7	.00	.00	.00	.00	S <sup>m</sup>	15 40	21 40	SE	393	SE	196	SE.	3
8	.04	.00	.00	.04	***			SE	266	SE	100	E	2
9	.00	.00	.00	.00	• • •	•• ••		E	380	E	99	ENE	3
10	.00	.00	.00	.00	•••			SE	423	SE	120	SE	2
11	.00	.00	.00	.00	•••			NE	146	C	7	W	
12	.00	.00	.00	.00				C	22	С	4	SE	
13	.00	.00	.02	.02	S <sup>m</sup>	12 40	21 30	SE	54	C	19	E	
14	.01	.00	.00	.01	•••			ENE	160	Ð	40	NE	:
15	.15	.08	.25	.48	S <sup>d</sup>	D. N. 8 15	D.N. }	NE	88	ENE	10	w	]
16	.02	.00	.00	.02	• • •			NE	302	N	53	N	
17	.00	.00	.00	.00	•••			N	244	NNE	100	$\mathbf{c}$	:
18	.00	.00	.00	.00	•••			E	108	10 TE 177	68	ENE	] :
19	.00	.00	.00	.00	• • •			E	395	NE	93	NE	2
20	.00	.00	.00	.00	•••			ENE	212	ENE	, 88	Ð	İ
21	.00	.00	*6½0.00	.00	•••			C	12	C	5	$\mathbf{c}$	
22	.00	.00	.00	•00	•••			E	12	E	19	W	
23	.00	.00	.00	.00	***			W	47	w	68	NW	
24	.00	.00	.00	.00	• • •			N	40	C	20	$\mathbf{c}$	
25	.00	.00	.00	.00	***		** **	E	66	E	48	E	
26	.00	.00	.01	.OI	S <sup>d</sup>	19 00	22 00	ENE	322	E	130	SE	
27	.40	.04	т	•44	S <sup>m</sup>	o 30	13 20	SE	110	SSE	86	E	
28	.01	.00	.01	.02	Sm Sm	0 30 15 00	D.N. }	E	96	SE	53	Ð	
29	.40	.04	.04	.48	{	19 35	17 30 } 20 30 }	SE	196	E	72	C	
30	т	T	.04	.04	Sm Sm	9 00 14 00	11 30 } 19 00 }	s	37	s	24	E	
n	1.03	.16	•37	1.56	•••			•••	4989	• . •	1958	•••	3
an				• • •	•••			SE	166.3	E	65.3	160	13

Tabulation of daily meteorological observations at Cape Flora during the month of April, 1905—Continued Observer: Francis Long

-					CLOT	JDS					
		8н	,		12H			20H			
Date	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
I	О			} 3	(A-S) S-Cu	sw. }	Few	s	NE	I	
2	o	•••		o	•••		О	•••		0	
3	0	• • •	··· 、	0	•••	•••	0	• • •	•••	0	Open water to south.
4	3	(A⊢S) S	E }	IÓ	S	NE	10	s	SE	9	Drifting snow.
5	. 10	<b>S</b>	SE	Few 2	(A-Cu) S-Cu	SE }	10	· s	SE	8	
6	{ 3 5	(Ci+Cu) S+Cu	SE }	Few	(Ci–Cu)	ese	4	(A-S)	ESE	4	Drifting snow to 9:00.
7	{ 2 2 2	(Ci+Cu) S-Cu	SE }	3 2 Few	(Ci-Cu) (Cu) S-Cu	SE } SE }	10	N	SE	7	Drifting snow from 9:00.
8	10	s	SE	10	S	SE	} I 2	Ci–Cu S	E }	8	Drifting snow from 9:00.
9	Few	S-Ou	10	0	•••	• • •	0	•••	•••	0	
10	0	•••	•••	0	•••	•••	. 0	•••	•••	0	Drifting snow to 12:30.
II	0	*** *	•••	0	***	•••	0	***	•••	0	
12	0	*	•••	0		•••	0	NT.	•••	0	Th
13	. 0		•••	10	S (Ci-S)	E ]	10	N	• - •	7	Fog 1:00 to 11:00.
14	3 7	(S-Cu) S	ENE }	{ 2 2 1	Cu S	E }	10	s	NE	8	٠.
15	, 10	S	NE	10	N	ENE	10	N	•••	10	
16	Few Few	(Ci–S) (Ci÷Cu) S–Cu	SW SW NE	Few	Ci-S	sw	o	•••	•••	I	Very fine weather.
17	4	S-Cu	N	Few	S–Cu	NNE	0			1	Open water south and southwest.
18	{ 4. 3	(A-S)	E }	10	S*	E	10	S*		8	Fog from 10:00.
19	} I	(Ci+Cu) S-Cu	E }	2	Cu	E	3	S-Cu	NE	2	High east to northeast wind all day.
20	, 0	(A-Cu)	 En )	0	•••	•••	. 0	•••	• • • •	. 0	
21	} 7	S-Cu	E	8	S-Cu	E	• • • •	**	•••	. 8	Dense fog from 17:10.
22		**			**	• • •	10	S		10	Dense fog to 17:30.
23	Few	(Ci-S)	NE.	_ 2	(Ci-Cu)	N	Few	(Cu)	N	I	
24	: O	***	•••	Few	(Ci-Cu)	N	10	S (Ci–Cu)	NE }	4	
25	. 0	*	•••	0	•••		3	(CI-Cu) S	S }	1	Fog 7:00 to 10:00.
26	7	(A-S)	ENE	7	(A-S)	E	10	. <b>N</b>		8	
27	10	N*	SE	10	N*	•••	10	·S*		10	Fog from 12:30.
28	10	S*	•••	10	S	•••	10	N*		10	Fog to 10:00 and from 16:00.
29	10	N*	SE	10	N*	•••	10	N*	•••	10	Fog all day.
30	10	<b>S*</b>	•.••	10	S		10	8		· IO	Fog to 11:00.
Sum	129	•		124		•••	155	•••	•••	146	: '
Mean	4.4	۵	٠٠٠	4.3	•••	• • •	5.3	•••	•••	4.9	

Tabulation of daily meteorological observations at Cape Flora during the month of May, 1905

Observer: Francis Long

	Λ	eroid Baro	3 £ rimain		READING O	ŕ		Self-reg	istering .	Fahrenhi	eit Theri	MOMETERS	
DATE	AN	EROID BARO	METER		неіт Тнек		8	н	12H	20	OH	Mean of	Range
	8н	12H	20H	8н	12H	20H	Max.	Min.	Max.	Max.	Min.	extremes	
	In.	. In.	In.	0	0	•			٥	٥	o		۰
I	29.88	29.87	29.88	+ 25.0	+ 27.0	+ 27.0	+ 32.0	+ 24.2	+ 27.0	+ 33.0	+ 24.0	+ 28.5	9.
2	29.74	<b>29.</b> 78	29.78	+ 29.5	+ 31.4	+ 32.0	+ 30.0	+ 24.6	+ 31.0	+ 32.0	+ 28.0	+ 28.3	7.
3	29.68	29.70	29.62	+ 32.0	+ 32.4	+ 33.0	+ 32.0	+ 30.0	+ 32.4	+ 33.0	+ 31.1	+ 31.5	3.
4	29.62	29.66	29.62	+ 21.0	+ 25.2	+ 25.0	+ 33.0	+ 20.1	+ 25.2	+ 26.9	+ 21.0	+ 26.6	12.
<b>,</b> 5	29.44	29.39	29.41	+ 26.0	+ 21.4	+ 18.8	+ 26.0	+ 24.Q	+ 26.o	+ 26.0	+ 18.0	+ 22.0	8.
6	29.48	29.56	29.65	+ 17.0	+ 14.0	+ 15.9	+ 18.8	+ 14.2	+ 17.0	+ 22.0	+ 13.6	+ 17.8	8.
7	29.60	29.60	29.57	+ 22.0	+ 25.0	+ 20.0	+ 22.0	+ 15.0	+ 25.6	+ 26.5	+ 18.0	+ 20.8	II.
8	29.22	29.23	29.08	+ 17.0	+ 23.0	+ 32.0	+ 20.0	+ 14.0	+ 23.0	+ 32.0	+ 17.0	+ 23.0	18.
.9	28.97	29.04	29.14	+ 33.0	+ 28.4	+ 23.0	+ 33.0	+ 30.0	+ 35.0	+ 35.0	+ 22.0	+ 28.5	13.
10	29. İ9	29.28	29.40	+ 24.0	+ 25.0	+ 25.8	+ 24.0	+ 22.0	+ 25.6	+ 29.0	+ 23.4	+ 25.5	7.
11	29.58	29.67	29.82	+ 16.0	+ 15.4	+ 13.0	+ 26:0	+ 16.o	+ 18.0	+ 18.0	+ 13.0	19.5	13.
12	29.92	30.00	30.08	+ 11.0	+ 10.4	+ 15:4	+ 13.0	+ 10.0	+ 14.0	+ 24.0	+ 10.0	+ 17.0	14.
13	30.00	29.97	29.82	+ 15.4	+ 20.0	+ 30.0	+ 15.4	<b>+ 10.0</b>	+ 20.0	+ 30.0	+ 15.4	+ 20.0	20.
14	29.66	29.62	29.46	+ 31.0	+ 31.0	+ 30.0	+ 31.0	+ 29.1	+ 31.4	+ 31.4	+ 30.0	+ 30.2	2.
15	29.28	29.31	29.28	+ 33.0	+ 33.0	+ 33.0	+ 33.0	+ 29.0	+ 33-4	+ 34.0	+ 30.0	+ 31.5	5.
16	29.18	29.19	29.24	+ 33.0	+ 36.0	+ 33.5	+ 35.0	+ 31.0	+ 37.0	+ 38.8	+ 32.0	+ 34.9	7.
· 17	29.34	29.46	29.53	+ 20.4	+ 18.4	+ 13.0	+.33.9	<b>+ 20.0</b>	+ 20.4	+ 20.4	+ 12.6	+ 23.2	21.
18	29.54	29.57	29.60	+ 11.5	+ 11.5	+ 11.0	+ 13.0	+ 10.0	+ 13.2	+ 14.0	+ 10.0	+ 12.0	4
19	29.44	29.50	29.47	+ 15.0	+ 21.1	+ 24.0	+ 15.0	1 10.2	+ 22.1	+ 25.8	+ 14.0	+ 18.o	15.
20	29.40	29.51	29.59	+ 25.0	+ 26.5	+ 28:5	+ 28.5	+ 24.0	+ 26.6	+ 29.0	+ 25.0	+ 26.5	5.
21	29.32	29.61	29.68	+ 28.0	+ 28.5	+ 27.0	+ 28.9	+ 25.2	+ 28.6	+ 29.0	+ 26.2	+ 27.1	3.
22	29.68	29.71	29.70	+ 29.0	+ 28.5	+ 24.0	+ 29.0	+ 26.0	+ 29.0	+ 29.8	+ 24.0	+ 26.9	5.
23	29.66	29.69	29.74	+ 22.5	+ 24.5	+ 24.0	+ 24.0	+ 21.0	+ 25.0	+ 26.1	+ 22.0	+ 23.6	5.
24	29.69	29.78	29.81	+ 24.0	+ 24.0	+ 20.0	+ 24.0	+ 21.0	+ 25.0	+ 25.1	+ 20.0	+ 22.6	5-
25	29.79	29.87	29.88	+ 17.0	+ 22.0	+ 18.8	+ 20.0	+ 16.0	+ 22.0	+ 25.1	+ 17.0	+ 20.6	9.
26	29.88	29.92	29.97	+ 21.0	+ 21.5	+ 20.0	+ 23.0	+ 15.0	+ 25.0	+ 34.1	+ 20.0	+ 24.6	19.
27	29.92	29.97	29.95	+ 25.0	+ 25.1	+ 25:0	+ 25.0	+ 17.1	+ 27.1	+ 35.0	+ 24.6	+ 26.0	17
28	29.91	29.96	29.98	+ 22.0	+ 20.4	+ 2ó.o	+ 25.1	+ 19.5	+ 22.5	+ 22.5	+ 19.0	+ 22.0	6
	29.97	30.01	30.00	+ 22.0	+ 23.0	+ 24.0	+ 22.0	+ 18.0	+ 23.0	+ 24.0	+ 20.0	+ 21.0	6
29		29.93	29.89	+ 26.0	+ 26.0	+ 27.0	+ 28.0	+ 23.1	+ 26.4	+ 32.2	+ 24.1	+ 27.6	9
30	29.95	29.95	30.08	+ 24.0	+ 28.0	+ 27.0	+ 27.8	+ 23.8	+ 28.8	+ 35.0	+ 23.8	+ 29.4	11
31	29.95		919.72	+718.3	+747.6	+740.7	+791.4	+633.1	+785.3	+878.7	+648.8	+756.7	304
ım	917.88	919.32	1	F.				,	' '	+ 28.3		' i	ì
ean…∥	29.61	29.66	29.67	+ 23.2	+ 24.1	+ 23.9	+ 25.5	+ 20.4	+ 25.4	+ 20.3	+ 20.9	+ 24.4	9

Tabulation of daily meteorological observations at Cape Flora during the month of May, 1905—Continued
Observer: Francis Long

				Pager	PITATION					W	IND		
D				I VECT	HALLON			81	<b>H</b>	12	н	20	)H
DATE	8н	12H	20H	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.
	In.	In.	In.	In.		h m	li m		Mi.		Mi.	77077	Mi.
I 2	.00	.09	.00	.00	S <sup>m</sup>	D. N.	21 29	ESE	190	E E	<i>7</i> 8	ESE ENE	197
3	.01	T	.08	.09	S <sup>m</sup>	10 30	10 45 {	ESE	300	ESE	73 47	SE	112 51
4	.00	.00	.00	.00	-	14 00	19 00 }	w		w		NW	
5	.04	T	.00	.04	∫ S <sup>a</sup>	D. N.	D. N. }	sw	143	N	31	NW	
6	·				( S <sup>d</sup>	10 00	11 00 \$		37		100		134
7	.00	.00	.00	.00	S <sup>m</sup>	10 26	73. 30	NW	195	NW	49	NW	94
8	.00	.03	.08	.04	S <sup>m</sup>		13 30	C E	42 367	sse e	18	E E	87
9	.10	.02	.02	.14	S <sup>m</sup>	14 30	IO 35	C	148	sw	103 38	SW	189
10	.00	.00	.00	.00				ENE	80	E	31	G	28
11	.00	.00	.00	.00	•••			NE	129	NE	103	NE	140
12	.00	.00	.00	•00				N	189	N	59	C	13
13	T	${f T}$	•04	.04	} S <sup>a</sup> S <sup>m</sup>	D. N.	D. N. }	SSE	44	SE	28	ssw	78
14	.02	${f T}$	.00	.02	S <sup>m</sup>		9 10	SSE	80	SE	23	SSE	96
15	.00	.00	.01	.01	S <sup>m</sup>	14 20 18 26	14 40 } D. N. }	ssw	100	sw	41	ssw	50
16	.02	.00	.00	.02	•••			С	30	O	4	a	11
17	.00	T	.00	T	$\left\{\begin{array}{c} S_q \\ S_q \end{array}\right.$	8 40 12 14 21 45	10 35 12 30 D. N.	NW	115	NW	62	NW	151
18	.02	.00	.00	.02				NW	251	NW	95	NW	159
19	.00	.02	.08	.10	S <sup>d</sup>	10 00	17 00	NE	235	w	106	SSE	115
20	.30	.04	.00	•34	S <sup>m</sup>	D.N.	10 30	E	196	E	130	ENE	224
21	.00	•00	.00	.00	•••			E	295	E	89	ENE	176
22	.00	.00	.00	.00	•••	••••		NE	191	ENE	65	NE	128
23	.08	T	.06	.14	Sq Sq	D. N. 15 00	8 30 }	NE	206	NE	64	NE	111
24	.04	.02	.00	.06	S <sup>d</sup>	10 20 22 35	II 30 } 22 50 }	ENE	220	ENE	58	NW	89
25	T	.00	.00	${f T}$	•••		·	NW	115	NE	56	NW	161
26	.00	.00	.00	.00	•••			NW	245	NE	36	N	60
27	.00	.00	.00	.00	•••	••	<b></b> .	И	82	N	29	N	35
28	.00	.00	T	T	Sq Sq	14 13 19 10	14 23 } 21 40 }	NW	108	NW	55	NW	<b>7</b> 6
29	T	T	.00	${f T}$	$\mathbb{S}^{d}$	7 30	9 10	w	85	wsw	33	wsw	73
30	.00	T	.04	.04	$\mathbb{S}^d$	11 00	15 10	E	50	E	55	w	тоб
31	.00	.00	T		S <sup>d</sup>	. 16 12	17 30	W	133	NW	39	sw	50
um	.88	.17	.46	1.51	•••	••••		•••	4768	•••	1798	***	3084
[ean	•••	•••	•••	•••	•••			NW	153.8	E	58.0	NW	102.8

Tabulation of daily meteorological observations at Cape Flora during the month of May, 1905—Continued Observer: Francis Long

					Cro	JDS					
		8н			12H			20H			
Date	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
I	ю	S	E	10	S	E	10	S	ESE	10	
2	10	N S	ESE	10	N **	• • • •	10	N* S*		10	Fog from 15:10. Generally foggy.
4	10	s	w	§ 2	(A-Cu).	N (	10	s		10	Fog to 4:00.
	3	S-Cu	NE	5	S-Cu (A-Cu)	W S		S-Cu	NW		
<b>5</b> 6	3 5 2	S–Cu	NE NW	Few	S-Cu	N S	Few	S-Cu S-Cu	NW	5 I	Very fine weather.
7	10	S		IO	N N	SSE	IO	S-Cu S-Cu	NW	10	very fine weather.
8	10	s	Œ	$   \left\{ \begin{array}{c}     2 \\     2 \\     4   \end{array} \right. $	(A-Cu) A-S S-Cu	E E E	10	N	16)	10	
9	10	N*		10	s		10	s		10	
10	10	S	NIE	10	s s	E NE	10	S	N.	10	Light winds. Drifting snow 4:35 to 15:40.
11 12	Few 10	S-Cu	NE N	Few	S-Cu	NE	10	s 	NE 	10	Dritting show 4.35 to 15.40.
13	IO	S	SSE	IO	N*	SE	10	N*	ssw	10	Fog from 11:00.
14	10	N*	SSE	10	S*	SE	10	S	SSE	10	Fog from 14:40.
15	10	S	•••	10	S (A-Cu)	SW SE	10	N*	ssw	10	
16	1 3	(A-Cu) S-Cu	W	4	S-Cu	SE	5	(A-S) S	}	8	
17	10	s	NW.	{ 4 4	S-Cu S	NW NW	4 4	(A-Cu) S-Cu	NW }	8	Snow drifting during P. M.
18	3 3	(A–Cu) S–Cu	NW	3	(A-Cu) S-Cu	NW NW	Few	(A-Cu) <sup>1</sup> S-Cu	NW }	4	Open water south and southwest 8:00 to 24:00.
19	5 5	(A-S)	NE }	10	N	w	10	s	SSE	10	Open water south and southwest.
20	10	N N	E	10	s	E	$ \begin{cases} 2 \\ 2 \\ 3 \end{cases} $	(Ci-Cu) S-Cu S	NE ) NE } NE ]	8	Open water south and southwest.
21	{ 3 6	S-Cu S	E E	3 <sup>3</sup> 7	S-Cu S	E E	3 6	S-Cu S	E }	9	Open water southeast, south, and southwest.
22	2 3 Few	(Ci–Cu) S–Cu S	NE NE NE	2 3 Few	(Ci–Cu) S–Cu S	NE NE NE	10	s	NE	6	Open water south and southeast.
23	10	N	NE	$ \begin{cases} 2 \\ 3 \\ 1 \end{cases} $	(Ci–Cu) S–Cu S	NE NE NE	10	N	NE	8	Open water southeast to south to southwest off island.
. 24	2 3 (Few	(Ci–S) S–Cu S	NE ) ENE } E	10	s	ENE	10	s	NW	8	Open water south and southwest; drifting 10:30 to 12:15.
25	{ 2 { 3	(Ci–Cu) S–Cu	NW NW	Few 2	(Ci–Cu) S–Cu	NE NE	2 I	(Ci-Cu) S-Cu	NW }	5	
26	2 Few	(Ci-S) (Ci-Cu) S	NW ] NW } NW }	{ 3 2	(Ci–S) Ci–Cu	NE }	$\left\{\begin{array}{cc} 2\\ \mathrm{I}\\ 2\end{array}\right.$	(Ci-S) (Ci-Cu) S	N N N	5	
27	ı	Ci-S	N	Few	(Ci-S)	N	2 2	A–Cu S–Cu	N }	2	
28	10	S	NW	10	S	NW	10	N	NW	10	
29	10	N	W	10	S	W	10	S	WSW	10	
30	10	S	E	10	N	E	<b>3</b> 6	S–Cu S	N }	10	
31	{ 2 3 1	(A–Cu) S–Cu S	\w\ \w\ \w\\ \w\\ \w\\ \w\\ \w\\ \w\\	o	•••	•••	{ 4 4	S-Cu S	sw } sw }	5	
Sum	248	•••	***	216	•••		246	•••	•••	242	
Mean	8.0		•••	7.2		•••	7.9		•••	7.8	
	]						1	i	·		I .

Tabulation of daily meteorological observations at Cape Flora during the month of June, 1905

Observer: Francis Long

ll.		_	İ	] ,	READING O	, l		Self-regi	STERING	Fahrenhe	THERE	HOMETERS	
DATE	Anei	ROID BAROM	IETER	FAHREN	HEIT THER	MOMETER .	81	H	12H	20	ЭН	Mean of	Parre
	8н	12Н	20Н	8н	12H	20H	Max.	Min.	Max.	Max.	Min.	extremes	Range
	In.	In.	In.		o	۰	0	. •	0	•	o		0
I	30.07	30.08	30.08	+ 26.2	•••	+ 32.4	+ 28.8	+ 22.0	•••	+ 35.0	+ 23.0	+ 28.5	13.0
2	30.02	30.02	30.00	+ 29.2		+ 27.8	+ 32.4	+ 27.0	• • •	+ 29.4	+ 27.0	+ 29.7	5.4
3	29.90	29.92	29.92	+ 26.5	• • •	+ 28.0	+ 27.4	+ 25.0	•••`	+ 32.0	+ 25.5	+ 28.5	7.0
4	<b>2</b> 9.94	29.98	30.01	+ 30.0	•••	+ 30.0	+ 31.0	+ 27.0	•••	+ 37.0	+ 29.0	+ 32.0	10.0
5	29.98	30.00	30.00	+ 26.5	• • •	+ 27.4	+ 30.0	+ 26.1	•••	+ 29.0	+ 26.0	+ 28.0	4.0
6	29.94	<b>29.9</b> 6	29.96	+ 29.0	•••	+ 29.2	+ 29.9	+ 26.5		+ 34.8	+ 28.2	+ 30.6	8.3
7	29.93	<i>2</i> 9.91	29.95	+ 29.0	•••	+ 28.5	+ 30.0	+ 28.0		+ 33.0	+ 27.1	+ 30.0	5.9
8	29.91	•••	29.92	+ 28.1	•••	+ 26.0	+ 30.0	+ 27.2	• • •	+ 33.0	+ 26.0	+ 29.5	7.0
9	29.82	• • •	29.82	+ 26.5	• • •	+ 26.0	+ 27.9	+ 25.0	• • •	+ 29.0	+ 25.0	+ 27.0	4.0
10	29.78	* • •	29.62	+ 27.0	***	+ 26.0	+ 28.1	+ 23.9	• • •	+ 27.0	+ 24.0	+ 26.0	4.2
11	29.41	•••	29.18	+ 34.0	• • •	+ 33.8	+ 34.0	+ 24.0		+ 35.0	+ 33.0	+ 29.5	11.0
12	29.27		29.38	+ 34.0	•••	+ 33.0	+ 34.0	+ 32.0	•••	+ 34.0	+ 32.0	+ 33.0	2.0
13	29.39	• • •	29.67	+ 32.0	•••	+ 32.2	+ 33.0	+ 31.2	•••	+ 37.0	+ 32.0	+ 34.1	5.9
14	29.85	•••	29.92	+ 32.0	••• •	+ 32.2	+ 33.0	+ 27.1	• • •	+ 39.0	+ 30.0	+ 33.0	11.9
15	29.74	•••	29.54	+ 34.0	•••	+ 33.8	+ 34.0	+ 30.0		+ 35.0	+ 32.0	+ 32.5	5.0
16	29.42		29.52	+ 31.1		+ 30.4	+ 33.8	+ 30.0	* * *	+ 33.0	+ 29.0	+ 31.4	4.8
17	29.48	• • •	29.46	+ 27.5	•••	+ 29.0	+ 30.4	+ 26.2	• • •	+ 30.0	+ 27.0	+ 28.3	4.2
18	29.15	• • •	29.16	+ 28.5		+ 30.0	+ 28.5	+ 26.2	• • •	+ 32.0	+ 28.5	+ 29.1	5.8
19	29.24	***	29.36	+ 28.9		+ 29.0	+ 30.0	+ 26.6	• • •	+ 32.0	+ 28.0	+ 29.3	5.4
20	29.28		29.30	+ 33.0		+ 32.0	+ 33.0	+ 27.8	•••	+ 33.0	+ 30.0	+ 30.4	5.2
21	29.28	• • •	29.34	+ 32.0	•••	+ 32.0	+ 32.0	+ 30.0		+ 36.1	+ 30.0	+ 33.0	6.1
22	29.22	•••	29.33	+ 31.5	•••	+ 32.0	+ 32.0	+ 30.0	•••	+ 37.3	+ 30.0	+ 33.6	7.3
23	29.36	•••	29.40	+ 28.0	•••	+ 29.0	+ 33.0	+ 26.0	•••	+ 31.0	+ 27.0	+ 29.5	7.0
24	29.34	•••	29.38	+ 33.0	• • •	+ 31.0	+ 33.6	+ 28.0	• • •	+ 35.0	+ 30.0	+ 31.5	7.0
25	29.48		29.54	+ 32.0	•••	+ 34.0	+ 32.5	+ 28.8	• • •	+ 42.0	+ 32.0	+ 35.4	13.2
26	29.52	•••	29.56	+ 32.4		+ 33.5	+ 35.0	+ 31.2	• • •	+ 34.0	+ 31.0	+ 33.0	4.0
27	29.56		29.68	+ 32.0		+ 30.0	+ 33.5	+ 27.2	•••	+ 35.0	+ 30.0	+ 31.1	7.8
28	<i>2</i> 9. <i>7</i> 6	•••	29.94	+ 32.5	• • •	+ 31.0	+ 32.5	+ 30.1	•••	+ 34.6	+ 30.0	+ 32.3	4.6
29	30.00	•••	30.10	+ 31.0		+ 30.0	+ 32.4	+ 29.0	• • •	+ 32.0	+ 29.0	+ 30.7	3-4
30	30.14	•••	30.18	+ 31.0	• • •	+ 33.0	+ 31.0	+ 29.0	•••	+ 33.0	+ 29.0	+ 31.0	4.0
Sum	889.18	•••	890.22	+908.4	•••	+912.2	+946.7	+828.1	•••	+1009.2	+861.3	+921.5	194.4
Mean	29.64		29.67	+ 30.3		+ 30.4	+ 31.6	+ 27.6		+ 33.6	+ 28.7		6.5

Tabulation of daily meteorological observations at Cape Flora during the month of June, 1905—Continued

Observer: Francis Long

							. PRANCIS I	11					··· -
				Preci	PITATION					V	VIND		
<b>D</b>				1 11201				8:	EL .	I	2Н	20	ЭН
Date	8н	1211	20H	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.
	In.	In.	In.	In.		h m	h m		Mi.		Mi.		Mi.
ı	.00		.00	.00				sw	85		***	С	119
2	.00	•••	T	т	S <sup>d</sup>	19 05 21 50	20 IO } 22 40 }	sw	11	•••		ssw	_ 95
3	Т		.04	.04	Sm Sm	8 30 16 00	12 10 }	s	62			s	64
4	.03		.00	.03	S <sup>m</sup>		7 05	C	37			E	40
5	.00		.00	.00				ESE	117			E	127
6	T	•••	Т	T	$\left\{egin{array}{c} \mathbf{S^d} \ \mathbf{S^d} \ \mathbf{R} \end{array} ight.$	6 45 14 00	4 20 7 10 14 10	E	66	•••		E	51
7	.00		.00	.00				N	16			NE	115
8	.00		.01	.01	н	18 00	18 40	N	15			NE	. 85
9	.00		.00	.00				NW	95	• • •		NW	139
10	.00	•••	.01	.01	S <sup>d</sup>	18 40		sw	89			SE	106
11	.05	•••	.02	.07	$\left\{\begin{array}{c} \mathbf{S^d} \\ \mathbf{S^m} \\ \mathbf{S^m} \end{array}\right.$	2 50 15 27	0 50 10 45 16 27	SE	172		·	sw	74
12	.01	•••	.00	.01	{ H { S <sup>m</sup>	3 03 3 30	3 30 } 4 10 }	ssw	118		•••	sw	102
13	.01		.01	.02	S <sup>m</sup>	3 00 12 30	6 40 } 13 30 \$	sw	57		·	w	101
14	.00		.00	.00				$\mathbf{w}$	115	• • •		sw	107
15	.00		.00	.00	• • • •			w	82	•••	,	w	112
16	.05	•••	.04	.09	$\left\{\begin{array}{c} \mathbf{S}^{\mathbf{d}} \\ \mathbf{S}^{\mathbf{d}} \end{array}\right.$	1 00 7 30 20 15	4 12 14 00 23 44	w	184	•••		wnw	292
17	.02		.01	.03	S <sup>d</sup>	4 04 10 30	4 30 }	w	262	•••	:	w	256
18	.30		.40	.70	S <sup>d</sup>	3 10	18 00	w	251			WNW	222
19	.00	•••	.00	.00	•••			N	241			N	192
20	.00		.01	.01	$S^d$	16 <b>0</b> 0	20 10	WNW	203	• • •		w	300
21	T		.00	T	S <sup>m</sup>	3 50 7 15	4 10 } 7 56 }	w	247		:	wsw	198
22	.01		.01	.02	Sd Sd	2 40 6 55	3 30 } 9 40 }	wsw	127	• • •		NW	139
23	.01		.00	.01	$S^a$	0 30	3 40	NW	204	•••		NW	145
24	.00		T	T	$S^m$	9 09	10 00	NW	102	•••		N	72
25	.00		.00	.00	$S^m$	21 30	23 20	NW	81		• • • •	sw	65
26	.01		.00	.01	• • •			NW	. 49	• • •		WNW	77
27	.00	•••	T	т	S <sup>m</sup>	11 00 22 30	0 30 }	ENE	53	•••		E	45
28	T		.00	T	• • •			ENE	52	• • •		С	33
29	.00		.00	.00	• • •			C	10	•••		w	. 35
30	.00		.00	.00	$\mathbb{S}^{m}$	22 00	23 , 30	W	51	•••	•••	w	б2
m	.50		.56	1.06	• • •			•••	3254			• • •	3570
an					•••			w	108.5	•••	•••	w	119.0

Tabulation of daily meteorological observations at Cape Flora during the month of June, 1905—Continued

Observer: Francis Long

					Cro	UDS					
		8н			12H			20H			
Date	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
I	10	s	sw		•••		Few 1 2	(Ci-S) (Ci-Cu) S	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	5	
2	<b>3</b> 6	S-Cu S	sw }	•••	• • •		10	N	ssw	9	
3	10	s	s		•••		IO	N	s	10	
4	10	S	• • •	• • • •	• • •		8	S	E	9	Fog 1:00 to 2:00 and 3:00 to 3:20.
5	10	S	ESE	•••	•••	• • •	10	s	B	10	
6	10	S	•••	•••	•••	•••	IO	S	E	10	
7	10	s		•••	•••	•••	<b>4</b> 5	(A-S) S	N I	9	
8	2 2 3 1	(Ci-Cu) (Cu) (A-S) S	E } E } E	***	•••		ю	s	E	10	Hail 18:00 to 18:40.
9	10	s	NW	• • •	•••		IO	S	NW	10	
10	{ 6 2	(A–S) S–Cu	}		• • •		10	N*	SE	10	Fog from 16:30.
11	10	s	SE		• • •		10	. N	sw	10	Fog to 6:30 and 8:30 to 21:00.
12	e lo s*		ssw	•••	•••		10	s	sw	10	Hail 3:03 to 3:30; fog 2:00 to 11:00.
13	{ 2 7	(A-Cu) S	sw }		•••		3 5	S-Cu S	W }	8	Fog 3:00 to 6:30.
14	{ 3 I 2	(Ci-S) (Ci-Cu) S-Cu	$\left[ egin{array}{c} \mathbf{W} \\ \mathbf{W} \\ \mathbf{W} \end{array}  ight]$		•••		10	s	sw	9	
15		**			• • •	• • • •	10	s	w	10	Generally foggy.
16	10	N	w	•••	• • •		IO	S	NW	10	Fog 1:00 to 3:20, 10:20 to 11:30, and 22:40
17	{ 3 5	S-Cu S	W }   W }		•••		10	s	w	8	to 23:15.
18	10	N	w	•••	•••		10	s	w	10	Heavy snow 3:10 to 5:15.
19	{ 3 6	S-Cu S	N {	•••	• • •		{ 4 4	S–Cu S	N } N }	8	
20	{ 4 { 4	S-Cu S	w }			• • •	10	N	w	8	
21	<b>3</b> 6	S-Cu S	w }	•••	• • •		10	s	sw	10	
22	10	N	wsw	•••	•••	•••	{ 2 2 1	(Ci–Cu) S–Cu S	NW ) NW } NW }	7	Fog 8:30 to 9:00.
23	10	s	NW		• • •		{ 3 5	S-Cu S	NW }	8	
24	{ 4 5	(A-S) S	NW }		•••	•••	{ 4 3	(A–Cu)	N }	8	
25	10	S	NW		• • •	•••		**	•••	7	Fog 3:30 to 22:30.
26	10	S	NW		•••	• • •	{ 2 3	(A–Cu) S–Cu	N }	8	Winds very light.
27	10	S	ENE		• • •	•••	ю	S	E	10	Fog 2:00 to 3:15.
28	10	S		• • •	• • •	• • •	10	S		10	Light winds.
29	10	S		• • •	• • •		ю	S*		10	Fog 11:00 to 21:00.
30	10	s				•••	10	<u>s</u>		10	Light west winds.
Sum	273	•••	•••	• • •	••• }	•••	261	•••	•••	271	
Mean	9.4	•••	•••	• • •		•••	9.0	•••	•••	9.0	

Tabulation of daily meteorological observations at Cape Flora during the month of July, 1905

Observer: Francis Long

	An	eroid Bar	OMETER		READING	OF		Self-rec	GISTERING	FAHREN	негт Тне	RMOMETERS	
Date				FAHREN	неіт Тні	RMOMETER		8н	12H		20Н	Mean	
	8H	12H	20Н	8н	12H	20Н	Max.	Min.	Max.	Max.	Min.	of extremes	Range
I	In. 30.14	In.	In.	•	•		0				0		
2			30.12	+ 30.0	• • • •	+ 30.2	+ 33.0	+ 28.0		+ 32.8	3 + 28.0	+ 30.5	5.0
		•••	30.00	+ 32.0		+ 33.0	+ 32.0	+ 29.1		+ 35.6	+ 30.0	+ 32.4	6.
3	29.84		29.83	+ 34.0		+ 33.5	+ 34.0	+ 32.0		+ 35.0	+ 32.0	+ 33.5	3.0
4	29.76		29.78	+ 33.5		+ 33.0	+ 34.8	3 + 30.2		+ 37.8	+ 30.0	+ 33.9	7.8
5 6	29.67		29.46	+ 33.0	• • • • • • • • • • • • • • • • • • • •	+ 34.0	+ 33.0	+ 30.0		+ 34.0	+ 32.0	+ 32.0	4.0
	29.71		29.84	+ 34.0	•••	+ 33.3	+ 34.0	+ 33.0		+ 35.6	+ 32.0	+ 33.8	3.6
7	29.89		29.90	+ 30.0	•••	+ 35.2	+ 33.3	+ 28.0		+ 40.6	+ 30.0	+ 34.3	12.6
8	29.85	•••	29.76	+ 40.5	•••	+ 37.4	+ 40.5	+ 34.0		+ 50.4	+ 37.4	+ 42.2	16.4
9	29.83	• • • • • • • • • • • • • • • • • • • •	29.94	+ 41.0	•••	+ 37.0	+ 41.0	+ 36.0		+ 48.9	+ 37.0	+ 42.4	12.9
10	30.00	• • • •	29.98	+ 42.0	• • •	+ 34.0	+ 45.0	+ 36.0	•••	+ 43.2	+ 34.0	+ 39.5	11.0
11	29.90		29.92	+ 34.0	•••	+ 34.6	+ 37.0	+ 31.0	•••	+ 40.0	+ 32.0	+ 35.5	9.0
12	29.86		29.95	+ 36.0	• • •	+ 34.0	+ 36.8	+ 34.0		+ 36.0	+ 33.0	+ 34.9	3.8
13	29.93	• • • • • • • • • • • • • • • • • • • •	29.95	+ 35.0	• • •	+ 37.0	+ 35.0	+ 33.0		+ 38.6	+ 34.0	+ 35.8	5.6
14	29.82	• • • • • • • • • • • • • • • • • • • •	29.84	+ 36.0	• • •	+ 33.6	+ 38.0	+ 34.5	•••	+ 36.8	+ 33.0	+ 35.5	5.0
15	29.98	•••	29.96	+ 33.0	•••	+ 30.0	+ 33.8	+ 31.0		+ 38.0	+ 29.1	+ 33.6	8.9
16	29.95	•••	30.00	+ 30.0	• • •	+ 33.0	+ 30.0	+ 26.0	•••	+ 35.0	+ 29.0	+ 30.5	9.0
17	30.03	• • •	30.10	+ 34.0	• • •	+ 33.5	+ 34.0	+ 29.0	•••	+ 35.0	+ 32.0	+ 32.0	6.0
18	30.06	• • •	30.06	+ 34.0	•••	+ 31.0	+ 34.0	+ 31.0	•••	+ 41.0	+ 30.0	+ 35.5	11.0
19	29.97	•••	29.96	+ 30.0	• • •	+ 33.0	+ 31.0	+ 27.0		+ 35.6	+ 29.0	+ 31.3	8.6
20	29.98		30.04	+ 34.0	• • •	+ 32.4	+ 36.0	+ 31.0		+ 36.0	+ 29.0	+ 32.5	7.0
21	29.98	• • •	29.87	+ 34.0	•••	+ 33.0	+ 34.0	+ 30.0		+ 34.4	+ 32.0	+ 32.2	4.4
22	29.75	• • •	29.74	+ 34.0		+ 34.0	+ 34.0	+ 33.0	•••	+ 36.4	+ 33.6	+ 34.7	3.4
23	29.58		29.82	+ 35.0		+ 33.5	+ 35.4	+ 33.2	•••	+ 36.9	+ 33.0	+ 35.0	3.7
24	29.96		29.84	+ 31.0		+ 30.0	+ 33.5	+ 30.0	•••	+ 41.0	+ 30.0	+ 35.5	11.0
25	29.60	•••	29.87	+ 34.9		+ 35.0	+ 35.0	+ 30.0		+ 37.6	+ 32.0	+ 33.8	7.6
26	29.90	•••	30.00	+ 35.9		+ 31.0	+ 36.8	+ 34.0	•••	+ 35.9	+ 30.0	+ 33.4	6.8
27	29.94		29.99	+ 32.0	• • •	+ 36.9	+ 32.0	+ 27.0	•••	+ 42.2	+ 32.0	+ 39.6	15.2
28	29.88		29.94	+ 33.0		+ 33.0	+ 37.0	+ 32.0	•••	+ 37.9	+ 32.1	+ 35.0	5.9
29	29.92		30.02	+ 33.0		+ 34.0	+ 33.5	+ 32.0	• • •	+ 36.9	+ 32.0	+ 34.4	4.9
30	30.01			+ 35.0			+ 36.5	+ 29.0	•••				
31					•••		•••		•••	•••			•••
	896.73		867.48	+1023.8		+973.I	+1053.9	+934.0	•••	+1105.1		+1005.2	219.6
n	29.89	•••	29.91	+ 34.1		l l	+ 35.1	+ 31.1	•••	+ 38.1	+ 31.7	1	7.6

Tabulation of daily meteorological observations at Cape Flora during the month of July, 1905—Continued Observer: Francis Long

1	, ,		-	Danar	DAM A MACCAP					W	/ind		
				PRECI	PITATION			81		12	2H	20	он
Date	8н	12H	20日	Total	Character	Beginning	Ending	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.	Direction	Wind mov. since last obs.
1	In	In.	In.	In.	S <sup>m</sup>	h m	h m	C	Mi. 86	•••	<i>Mi.</i>	s	Mi. 60
2	Т	•••	.02	.02	$\left\{\begin{array}{c}\mathbf{S^m}\\\mathbf{S^m}\\\mathbf{S^m}\end{array}\right.$	7 00 11 30 20 40	8 50 13 35	ssw	92			s	77
3	.02	•••	.09	.11	$\left\{egin{array}{c} \mathbf{S^m} \\ \mathbf{R} \\ \mathbf{S^m} \end{array}\right.$	8 45 II 00	6 00 ] 11 00 } 15 00 }	E	68	•••		s	26
4	.00	• • •	.02	.02	S <sup>m</sup>	15 00	16 30	SE	13			sw	33
5	.16	•••	.30	.46	$\left\{\begin{array}{c} \mathbf{S}^{m} \\ \mathbf{S}^{m} \\ \mathbf{R} \end{array}\right.$	D. N. 14 45 16 00	D. N. 16 00 20 30	ESE	73	•••		E	284
6	.oı	• • •	.02	.03	Sm R	11 30 19 00	16 15 } 20 50 }	$\ $ w	76			E	89
7	$\mathbf{T}$	•••	.00	${f T}$				c	134			c	35
8	.00	• • • •	.00	.00				C	8	•••		N	63
9	.00	•••	.00	•00	***			C	62	•••		N	81
10	.00	•••	.00	.00				C	76	•••	•••	E	118
11	.00	•••	.00	•00	•••			E	314			E	237
12	.02	• • • •	.01	.03	$\left. egin{array}{c} \mathbf{R} \\ \mathbf{R} \end{array} \right.$	3 00 8 48	4 30 } 9 30 }	E	54			E	112
13	.00		.00	•00				C	28			C	12
14	.00	• • •	.00	•00	•••			c	8	• • •		NW	68
15	.00	•••	.00	.00	•••			NW	135	• • •		w	112
16	${f T}$		T	${f T}$	S <sup>m</sup>	7 30	8 40	w	31	•••		w	62
17	.00	•••	۰00	.00				C	39			w	18
18	.00	•••	.00	.00	S <sup>m</sup>	23 00		C	37	• • •	•••	W	27
19	Т		T	${f T}$	S <sup>m</sup>	10 15	I IO {	$\mathbf{w}$	98		•••	WNW	170
20	.00		.00	.00	S <sup>m</sup>	0 30	14 10	w	122	•••		w	150
21	.00	• • •	.08	.08	R	15 45	20 50	$\parallel$ w	128	• • •		C	50
22	.25	•••	.04	.29	$\left\{ egin{array}{l} { m R} \\ { m R} \end{array} \right.$	3 00 6 00	9 50 }	NW	60	•••		N	68
23	.58		.01	•59	R		9 00	w	92			w	136
24	.00		.00	.00	$\mathbf{R}$	22 25		w	111	• • •		E	88
25	.08		.00	.08	${f R}$		D.N.	NE	135	• • •		WNW	107
26	.00		.00	.00	• • •			C	53	• • •		SE	26
27	.00		.00	.00	•••	•• ••		E	96	• • •		Œ	151
28	.15	•••	.01	.16	${f R}$	2 00	8 50	SE	249	• • •		SE	104
29	.00	•••	.00	.00	•••			SE	117	•••		. <b>C</b>	84
30	.00	•••	• • •	•••	•••			SE	7	• • •			
31					•••	••••							
Sum	1.28	•••.	0.62	1.90	•••				2602	***			2648
Mean	•••	••• ]		• • •	•••			C	86.7	•••		E	91.3 -

Tabulation of daily meteorological observations at Cape Flora during the month of July, 1905—Continued

Observer: Francis Long

	-					CLOT	JDS					
			8н	ļ		12H			20Н		- ro	
DA	TE.	Amount	Character	Dir. from	Amount	Character	Dir. from	Amount	Character	Dir. from	Av. daily cloudiness	Remarks
	1	10	N*			•••		10	s	s	10	Fog 7:00 to 15:00.
	2	10	N	ssw				10	s	S	10	Light south to southwest winds.
	3	10	S*	•••		• • •	•••		**		10	Generally foggy.
	4	10	S		• • • •	•••	•••		**		10	Fog from II:00.
	5	10	S	ESE		• • •	•••	10	N*	E	10	Fog from 10:00.
	6	<b>3</b> 4	(A–Cu) S*	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		•••	•••	10	N**	•••	7	Fog 9:30 to 11:00, 16:00 to 17:30, and 5:30 to 24:00.
	7	Few Few 8	(Ci-S) (A-Cu) S	}	•••	• • •	•••	{ 4 4	(A-Cu)	E }	8	Fog 7:00 to 13:30.
	8	2 1 2 Few	(Ci-S) (Ci-Cu) (A-S) S	E   E ( E )		•••	•••	Few Few 2	(Ci–S) (Ci–Cu) S–Cu	x }	2	
	9	o	•••	<b> </b>		• • •		Few	(A-Cu)*	N	I	Fog 18:30 to 22:00.
	10	Few (Ci-S)	(Ci-S)	N		• • •		10	S*	E	6	Fog from 10:00.
	11	•••	*			• • •	***	10	S	E	7	Fog to 15:40.
	12	10	S	E		• • •		•••	**	•••	10	Fog from 15:40.
	13	10	S*			•••	•••	10	S		10	Fog to 14:30.
	14	10	S*			•••	•••	10	S	W	8	Fog to 14:00.
	15	10	S	NW	•••	• • •	•••	•••	**	•••	IO	Dense fog from 5:30.
Þ	16	10	N*			•••	•••	10	S	377 )	10	Dense fog to 8:40.
	17	10	S			•••	•••	4 4	S-Cu S	W }	10	Light winds.
	18	Few Few	(Ci) S-Cu S	N     N     N	•••	•••	• • • •	10	S	w nw.j	4	Fog 20:30 to 21:15.
	19	IO	s	w		• • •	•••	3 3	(Ci-S) S-Cu S	NW NW	9	
	20	<b>3</b> 6	S-Cu S	W }		•••		10	s	w	8	Fog to south all day.
	21	10	ន	w		•••		10	N*	•••	IO	Foggy; light variable winds.
	22	10	N**			•••		IO	N**	•••	10	Generally foggy.
	23	10	N**	W			•••	10	S	w	8	Fog to 13:20 and 16:30 to 16:50.
	24	•••	**	• • • •	• • • •	•••	•••	10	8*	E	6	Fog from 5:00.
	25	10	N*	•••		•••		3	S-Cu S	NW }	8	Fog to 18:00.
	26	10	8*	•••		•••			** (A C = )		10	Fog from 2:00.
	27	10	8*	E		•••		3	(A-Cu) S	16)	2	Fog to 10:00.
	28	10	N*	SE		•••	•••		**	•••	7	Fog 8:00 to 19:30.
	29		**			• • •	•••	•••	**	•••	10	Fog all day.
	30	0	• • •		•••	•••	•••		•••	•••	•••	Dense fog A. M.
	31		•••				•••	.	•••			
Sum		221	•••	•••		•••		187	• • • • • • • • • • • • • • • • • • • •	•••	231	
Mear	ı	8.2	•••	•••		•••	•••	8.5	•••	•••	8.0	

<sup>\*</sup>Light fog. \*\* Dense fog.

Cloud characters enclosed in parentheses, thus (Ci-Cu), refer to upper clouds, all other references being to lower clouds.

# METEOROLOGICAL OBSERVATIONS

## TABULATION OF DAILY WIND RECORDS

#### REGISTERED AT

TEPLITZ BAY STATION, RUDOLPH ISLAND
FRANZ JOSEF ARCHIPELAGO
SEPTEMBER 1, 1903, TO MAY 26, 1905

NORTH LATITUDE: 81° 47.'6

LONGITUDE EAST OF GREENWICH: 57° 56'

Tabulation of hourly wind records at Teplitz Bay during the month of September, 1903

											Wı	ND MO	OVEME:	NT	,										
Date										F	or the	hour	prece	eding											Daily
	IH	2H	3н	4н	5H	6н	7н	8н	9н	ЮН	IIH	12H	13Н	14H	15H	16н	17Н	18н	19н	20H	21H	22H	23Н	24Н	total
	Mi.						Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.
I 2	9	13 25	11	10	9	19	20	17 26	23	26 28	27 41	21	18	14 28	12	11	6	21	38	10	15	18 41	18 36	13 34	361 729
3	32	29	25		23	24	17 27	29	32 22	23	26	43 27	32 28	25	31	36 22	32 22	35 21	21	51 19	51 15	17	<b>1</b> б	9	548
4	7	7	8		6	6	6	4	7	10	12	13	15	12	9	8	9	7	5	7	7	6	5	11:	196
5	14	14	14	•	17	12	11	12	16.	13	11	14	18	14	16	12	10	12	14	14	15	17	22	19	349
6	26	28	28	22	17	14	10	7	6	13	15	14	17	14	20	18	15	12	28	28	18	24	23	18	435
Ź	15	24	28	22	16	13	12	13	12	4	5	4	5	4	4	5	7	10	11	9	6	10	10	11	260
8	11	10	8	6	10	10	8	12	12	16	15	17	16	16	15	15	II	13	12	15	11	14	9	11	293
9	11	11	10	7	6	5	3	5	5	3	3	4	4	4	4	4	4	6	9	6	7	8	9	10	148
10	11	9	6	4	4	3	3	3	3	5	5	5	3	2	3	4	4	3	3	5	7	8	5	3	. 111
11	2	4	8	6	6	7	7	7	8	8	7	18	18	13	13	10	8	13	13	20	17	21	22	25	281
12	20	18	17	13	15	14	17	21	18	25	24	24	23	19	11	8	13	13	12	15	14	12	13	15	394
13	16	16	13	10	10	5	4	3	2	12	15	12	8	II	12	15	19	20	19	18	16	15	14	13	298
14	14	14	13	15	14	13	13	12	11	13	12	15	II	10	9	8	8	7	6	6	3	3	2	2	234
15	2	3	I	2	2	3	2	2	2	2	2	2	3	4	4	4	7	5	7	7	8	8	7	7	96
16	10	15	15	15	12	12	12	15	21	19	20	14	12	12	12	10	8	8	7	6	8	9	10	11	
17	12	11	11		11	5	5	3	I	2	2	I	2	9	18	21	22	19	12	10	10	10	8	9	
18	8	8	5	2	2	I	3	5	5	5	5	6	4	4	2	7	10	14	4	6	II	9 18	4	2	132
19	3	5	5	6	4	4	3	5	4	3	4	5	6	5	7	7	10 17	12	12 16	14	15	2	14 3	14 1	l
20	11	13	11	12	14	15	11 21	12 30	14 32	17 34	23 31	22 16	19	15 20	15 24	17	20	15	17	22	29	27	19	8	462
21	6	8	12 Q	_	7				5			••	2	9	2	4	5	2	2	2	3	2	1	0	
	1	0		2	, T	0	0	2	4	6	8	7	7	10	II	12	16	11	10	10	10	8	7	13	
23	8	8	3	2	1	1	4	3	1	2	3	9	5	4	17	13	19	16	13	10	7	7	11	17	
24 25	8	10	6	9	19	27	17	15	13	14	22	25	22	22	18	16	14	13	11	13	13	12	9	20	368
26 26	23	23	21	19	11	15	18	16	11	20	16	9	8	9	12	22	42	41	30	23	27	26	27	32	501
27	34	35	31	32	25	<i>2</i> 6	29	23	23	16	27	39	26	12	6	5	4	23	27	32	28	30	27	23	583
28	17	9	8	4	9	6	5	10	6	3	4	I	6	5	6	5	5	5	3	3	5	7	7	8	147
29	7	7	7	8	6	4	5	5	5	2	I	2	3	4	4	3	7	5	4	9	8	5	6	4	121
30	4	2	16	26	21	14	Ļ	21	9	10	14	16	9	9	34	39	39	39	38	42	42	40	38	30	563
Means	12.2	12.9	12.2	11.5	10.9	10.3	10.3	11.5	II.I	12.2	13.8	14.0	12.1	11.3	12.3	12.6	13.8	14.6	13.8	14.8	14.3	14.5	13.4	13.1	302.9
													1												],

Total movement during month, 9061 miles; mean daily movement, 302.9 miles; average hourly movement, 12.6 miles

Tabulation of hourly wind records at Teplitz Bay during the month of October, 1903

											W	IND M	ovem	ENT			·····					<del></del>	, _,		
Date											For t	he hou	ır pre	cedin	g							-			Daily
	IH	2Н	3Н	4н	5н	6н	7H	8н	ЭН	юн	пн	12H	ізн	14н	15H	16н	17Н	18н	19Н	20H	2I H	22H	23Н	24Н	total
1	Mi.	Mi.	Mi.	Mi. 30	Mi.	Mi. 50	Mi.	Mi. 50	Mi.	Mi.	Mi.	Mi.	Mi. 28	Mi. 28	Mi.	Mi.	Mi.	Mi.	Mi.	Мі. 16	iΜi. 15	Mi.	Mi.	Mi. 8	Mi. 620
2	6	8	9	16	16	21	23	23	16	18	18	22	12	21	21	5	2	7	4	6	8	5	7	5	ll
3	3	2	2	3	3	13	13	20	26	17	23	22	21	16	15	11	7	6	4	4	4	3	2	2	242
4	2	I	I	I	2	I	2	5	10	14	4	4	4	4	3	6	5	2	I	2	3	I	I	5	84
5	6	5	4	6	5	6	6	15	13	6	4	4	3	6	7	6	8	8	7	8	9	12	13	13	180
6	13	15	15	17	27	29	29	32	33	37	37	37	33	<b>3</b> 6	36	35	35	31	28	33	34	29	23	15	689
7	13	15	12	8	9	10	8	7	6	5	5	5	7	6	7	8	10	12	9	14	19	22	3	7	227
8	3	1	2	6	13	6	2	I	I	2	I	2	3	3	3	2	I	2	6	3	2	2	2	2	71
9	I	2	2	4	4	3	2	2	2	I	2	2	I	I	I	3	2	2	I	0	2	3	3	3	49
IO	3	2	3	4	3	6	5	10	9	11	21	29	29	31	26	6	4	5	4	4	3	6	3	7	234
II	4	8	10	18	15	19	9	13	15	21	22	15	15	19	17	21	21	20	19	21	23	25	28	29	427
12	29	<b>2</b> 6	<i>2</i> 9	28	30	28	<b>2</b> 6	25	29	26	26	23	21	19	19	16	15	II	7	3	5	6	8	16	471
13	15	16	18	20	19	20	17	18	14	6	5	5	11	12	9	7	5	4	6	6	4	3	6	10	256
14	20	16	6	10	4	4	4	3	2	2	4	I	3	I	I	2	2	2	2	6	10	II	10	9	135
15	12	II	10	9	3	5	6	3	3	6	3	2	2	2	I	I	3	5	7	2	2	4	4	3	109
16	3	4	2	2	I	2	3	I	2	2	2	3	1	I	I	2	0	I	3	3	2	2	4	7	54
17	11	13	20	24	20	17	13	16	29	38	38	35	34	38	36	32	15	17	7	6	15	IO	7	3	494
18	6	6	8	12	3	2	2	3	2	I	2	2	6	5	6	8	7	19	19	23	13	7	5	6	173
19	4	5	7	9	11	14	13	15	15	10	9	6	7	8	13	16	21	21	<b>3</b> 6	13	8	8	10	15	294
20	13	22	21	25	21	19	24	22	17	18	16	23	27	24	23	12	13	11	14	14	19	8	5	7	418
21	6	3	2	3	3	4	1	I	7	3	3	4	3	2	I	3	2	7	4	8	5	6	3	10	94
22	16	28	30	24	23	27	30	37	22	8	10	5	25	18	10	14	23	37	20	24	41	53	47	43	615
23	47	45	44	51	49	55	57	58	62	62	61	63	67	67	63	54	49	62	64	51	13	21	39	45	1249
24	43	45	48	40	41	38	29	19	32	14	18	16	12	13	8	6	6	7	3	3	4	2	I	3	
25	3	4	4	11	15	14	13	11	10	10	10	7	3	4	3	3	2	4	I	2	6	9	13	12	
<i>2</i> 6	11	8	8	4	8	9	II	15	<b>2</b> 5	26	26	30	31	29	31	32	33	32	33	40	41	43	44	45	l
27	50	54	52	48	41	32	34	34	31	29	<b>2</b> 6	22	23	17	12	13	3	5	4	5	3	5	2	6	
28	5	8	5	6	13	16	5	6	5	5	I	3	2	2	4	4	8	10	5	5	3	4	14	5	l .
29	3	4	6	6	7	3	2	5	2	5	2	2	I	2	2	3	I	3	3	4	4	5	3	2	l
30	4	I	2	4	2	2	I	2	I	3	I	I	I	I	I	I	3	4	5	6	7	7	6	7	
31	7	9	6	6	7	9	10	12	14	17	25	30	30	32	33	23	14	13	12	13	10	9	9	9	II ——
Means	12.4	13.2	13.3	14.7	14.8	15.6	14.4	15.6	10.1	14.1	14.5	14.6	15.0	15.1	14.1	12.2	11.0	12.5	11.4	11.2	10.9	11.2	11.0	11.6	320.4

Total movement during month, 9931 miles; mean daily movement, 320.4 miles; average hourly movement, 13.4 miles

Tabulation of hourly wind records at Teplitz Bay during the month of November, 1903

											W	IND M	OVEM1	ÎNT	,						-				
Date					,					1	For th	e hou	r pre	eding									,		Daily
	ІН	2H	3н	4H	5н	бн	7н	8н	ЭН	юн	ии	12H	ізн	14н	15 <b>H</b>	16н	17Н	18н	19н	20Н	21H	22H	23Н	24Н	total
I	Mi.	Mi. 6	Mi. 6	Mi. 4	Mi.	<i>Mi</i> . 5	Mi.	Mi.	Mi.	<i>Mi</i> .	Mi.	<i>Mi</i> .	Mi. 6	Mi.	Mi.	Mi. 8	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	<i>Mi</i> .	Mi. 192
2	10	10	II	10	7	8	8	10	10	13	II	II	14	14	10	13	II	10	11	10	9	8	6	7	242
3	8	5	6	8	8	6	6	9	8	7	8	10	12	13	10	10	9	6	4	4	7	7	9	9	189
4	13	12	10	6	5	5	5	4	5	I	2	1	3	5	5	6	8	ю	10	4	7	8	9	I	145
5	4	3	5	5	3	4	2	I	1	2	2	2	2	I	3	3	3	4	5	5	7	6	2	2	77
6	1	2	2	5	6	6	8	7	4	4	4	3	3	4	2	2	1	2	4	5	2	2	2	5	86
- 7	4	6	4	3	2	2	3	3	1	2	2	2	3	3	I	2	I	I	3	2	I	I	1	1	54
8	2	2	I	3	5	4	2	2	3	4	8	9	7	7	5	3	4	I	2	3	2	I	2	3	85
9	I	I	1	I	0	I	2	I	I	2	I	I	0	2	I	3	2	3	3	I	2	3	4	5	42
10	6	7	8	6	6	5	5	5	3	10	10	8	3	3	4	3	3	I	I	3	3	4	2	2	III
11	8	0	0	0	0	0	0	2	2	o 8	8	I	I	ı	I	2	2	2	I	4	6	6	8	10	52
13	3	2	3	13	14 25	12 28	14 35	13 34	10 35	34	33	5 32	5 27	5 27	6	5	3 36	4	2	I	I	I	10	2	162
14	29	26	22	22	18	19	16	9	11	9.	7	9	12	20	30 21	37 21	19	4I 22	43 20	47 22	50 18	50	49 12	34 10	754 407
15	10	7	4	5	5	5	2	2	8	8	21		29	11	17	21	22	19	15	15	14	12	10	7	289
16	7	8	5	6	10	14	22	25	18.	16	16	17	11	II	7	4	II	14	16	14	12	14	13	12	303
17	15	15	16	12	14	23	14	9	7	8	IO	12	4	2	I	3	7	II	12	10	9	5	7	5	231
18	3	4	5	2	4	5	8	8	4	7	5	5	4	6	5	4	5	6	5	4	7	7	7	8	128
19	8	8	7	7	8	7	6	6	3	4	3	3	4	6	6	5	4	7	7	7	6	7	7	5	141
20	5	6	5	6	6	7	6	6	7	5	6	12	17	24	28	33	34	30	35	38	41	47	45	48	497
21	45	32	32	31	33	28	23	29	29	25	19	19	18	14	3	6	5	5	10	16	32	33	32	34	553
22	32	40	40	44	49	48	43	46	41	<b>3</b> 6	3 <b>0</b>	24	17	14	8	8	4	3	5	9	4	3	2	2	552
23	2	2	2	11	19	20	24	28	30	38	32	35	40	42	<b>3</b> 6	36	28	37	<b>3</b> 6	37	26	20	25	30	636
24	17	20	<b>3</b> 6	44	41	37	33	29	25	17	22	24	26	32	33	37	40	40	36	37	35	34	37	51	783
25	40	25	23	12	19	12	23	12	32	31	16	11	11	32	21	9	11	15	14	13	13	8	9	8	420
26	24	37	46	54	49	45	46	46	46	41	41	34	43	43	43	46	45	48	52	45	38	32	38	41	1023
27	43	40	34	39	35	14	25	13	17	28	41	48	51	55	50	49	53	47	46	40	42	30	36	43	919
28	45	48	43	37	32	<b>3</b> 6	40	35	31	29	26	25	36	30	43	45	37	25	39	41	32	34	42	39	870
29	48	48	38	42	46	42	44	50	48	46	20	54	62	58	51	50	43	26	8	37	61	59	53	45	1079
30	43	42	35	27	6	5	3	3	3	4	12	12	9	9	8	10	14	16	19	19	24	25	25	25	398
Means	16.2	15.8	15.4	16.1	16.0	15.1	15.8	15.1	15.0	14.8	14.0	15.2	16.0	16.7	15.5	10.1	15.9	15.6	15.9	16.9	17.4	16.4	16.9	16.8	380.7

Total movement during month, 11420 miles; mean daily movement, 380.7 miles; average hourly movement, 15.9 miles

Tabulation of hourly wind records at Teplitz Bay during the month of December, 1903

Date					-						For th	a hou	r pred	adino											
Jaic	IH	2Н	3н	4H	5н	6н	7н	8н	9н	юн			<u> </u>			16н	17н	18н	19н	20H	21H	22H	23H	24H	Dail
i	Mi.	Mi.	Шi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.
1	30	27	29	29	27	<b>2</b> 6	27	24	23	23	20	18	20	20	19	17	20	21	20	16	17	16	18	16	52
2	13	13	12	II	IO	8	9	8	8	7	8	9	7	8	7	8	9	IO	11	12	13	II	II	10	23
3	7	4	2	5	12	20	25	33	32	29	24	20	23	18	19	17	17	16	20	20 <sup>-</sup>	17	12	12	9	4
4	II	11	13	12	13	14	14	19	17	16	II	ŢI	9	8	10	9	10	9	II	9	10	8	9	12	27
5	13	5	2	2	3	3	6	6	I	3	1	2	4	3	2	I	4	3	4	3	3	5	2	2	8
6	2	5	4	8	9	8	8	8	6	5	6	6	5	5	4	5	4	4	5	5	6	5	6	6	13
7	7	7	10	9	7	8	7	9	4	1	0	0	I	5	13	16	16	5	2	4	10	14	23	23	20
8	25	<i>2</i> 5	3	6	5	4	4	4	6	4	7	16	14	9	4	7	7	4	9	15	20	25	22	6	25
9	15	9	27	41	43	43	38	34	31	26	21	52	25	41	33	40	40	<b>3</b> 6	40	52	50	51	48	46	88
10	42	<b>3</b> 6	18	27	<b>2</b> 6	29	34	13	17	14	22	27	29	31	34	38	39	37	40	39	<b>3</b> 6	<b>3</b> 6	36	34	73
II	36	38	37	34	<b>3</b> 8	38	40	45	44	48	48	49	51	52	48	48	50	47	45	45	48	49	54	55	108
12	56	54	57	58	62	62	68	68	66	68	72	74	78	72	77	<b>7</b> 6	72	67	66	60	51	51	46	42	152
13	36	<b>2</b> 6	34	21	14	5	5	4	3	2	4	11	2	5	3	8	8	21	17	19	23	37	36	28	3
14	20	10	6	12	16	18	30	37	38	30	31	32	34	25	ю	10	8	7	9	37	<b>3</b> 6	33	34	32	5.
15	29	31	34	38	39	35	26	33	31	29	30	27	28	27	38	32	34	32	25	32	41	37	17	48	7:
16	41	46	51	25	<b>2</b> 6	16	16	53	66	62	66	65	68	<i>7</i> 0	68	63	42	II	6	10	10	17	24	35	9.
17	19	11	15	19	29	35	34	53	5 <i>7</i>	46	42	40	50	47	35	13	10	<b>2</b> 6	16	23	8	8	II	34	6
18	20	17	32	21	20	34	30	<b>3</b> 6	35	30	39	43	16	14	16	22	8	12	5	4	I	2	5	5	4
19	3	4	4	7	16	16	20	22	22	15	16	15	25	24	34	36	38	42	38	37	31	39	38	37	5:
20	35	38	43	39	42	38	41	47	44	42	38	44	45	<b>3</b> 6	41	49	53	37	14	28	23	20	9	5	8
21	6	11	12	5	II	10	5	6	I	5	7	2	3	2	14	15	11	12	16	17	18	27	33	30	2
22	31	<b>2</b> 6	33	<b>3</b> 6.	38	38	41	43	43	38	18	25	52	54	51	50	32	14	10	5 <i>7</i>	60	49	17	14	8
23	16	41	22	14	28	38	44	38	49	50	54	48	43	23	18	16	8	17	17	12	17	5	7	8	6
24	7	7	5	6	10	12	15	16	13	II	7	5	14	3	15	23	31	33	39	<b>2</b> 6	4	6	14	31	3
25	22	13	14	10	6	3	11	19	20	24	<i>2</i> 8	27	27	26	27	26	25	23	25	<b>2</b> 6	29	29	29	27	5
26	28	28	26	25	23	20	17	16	14	10	6	5	7	6	7	4	4	2	2	5	6	8	8	6	2
27	6	6	7	7	4	15	21	25	26	27	30	33	30	36	44	44	40	43	45	48	46	54	54	61	7
28	66	72	71	70	72	82	77	82	88	83	77	75	71	71	71	71	71	71	71	71	71	71	71	65	17
29	57	54	49	16	17	24	36	28	10	7	12	.8	7	13	9	9	4	5	3	5	4	4	4	5	3
30	4	4	3	5	3	3	4	3	3	4	4	2	4	3	2	3	I	2	7	9	9	12	16	18	1
31	17	16	17	23	28	31	33	36	35	34	33	34	40	44	42	42	42	39	39	37	28	.25	22	21	7

Total movement during month, 18299 miles; mean daily movement, 590.3 miles; average hourly movement, 24.6 miles

Tabulation of hourly wind records at Teplitz Bay during the month of January, 1904

											Wı	nd M	OVEME	NT											
Date	 									F	or th	e hou	r pred	eding											Daily
	ІН	2H	3н	4н	5н	бн	<b>7</b> н	8н	9н	юн	IIH	12H	ізн	14H	15H	16н	17н	18н	19н	20Н	21H	22H	23Н	24H	total
ı	Mi.	Mi. 28	Mi. 28	Mi.	Mi.	Mi.	Mi.	Mi.	Мі. 16	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi. 18	Mi.	Mi.	Mi.	Mi. 16	Mi.	Mi. 469
2	14	14	12	25 8	20 8	23 8	2I 9	22 II	17	17 18	16	17	23	18	17	17	20	21	6	17 7	14 7	15 6	6	14	234
3	3	2	4	6	6	3	5	4	5	6	29	38	38	10	33	7 24	5 16	4 24	20	13	11	7	7	18	362
4	21	28	24	17	14	4	7	8	11	10	7	9	8	6	3	3	2	5	8	4	8	6	8	5	226
5	4	3	5	3	2	5	9	12	15	16	18	21	25	26	18	15	9	II	12	9	7	4	4	4	257
6	5	9	12	13	12	7	14	19	21	34	39	29	23	15	9	14	14	II	4	4	2	2	1	8	321
7	12	15	12	20	20	16	13	15	14	13	14	14	18	19	23	22	25	18	28	28	11	9	II	9	399
8	8	5	8	5	10	23	39	46	45	45	42	42	47	47	44	46	46	41	37	29	23	24	19	20	741
9	19	7	9	12	13	11	6	2	1	2	3	I	4	0	11	25	30	26	30	29	29	<b>2</b> 6	30	32	358
IO	31	41	42	47	18	5	10	8	7	6	3	4	3	4	3	7	4	2	2	3	2	4	I	5	262
11	6	10	3	7	3	9	21	22	23	28	32	33	37	37	27	12	12	10	9	8	11	9	10	12	391
12	12	12	10	11	12	IO	12	9	8	10	7	9	7	6	II	12	15	13	21	22	18	17	12	II	287
13	8	7	4	5	4	9	8	12	9	7	I	2	3	3	4	4	I	2	2	I	0	I	2	3	102
14	0	0	0	1	0	0	0	0	I	0	I	I	I	2	2	I	3	I	3	4	2	3	4	4	34
15	4	6	7	9	8	8	9	9	12	14	15	18	14	14	16	11	8	8	8	9	6	7	8	9	237
16	9	4	8	13	25	25	30	30	27	22	21	21	20	22	21	22	21	24	26	17	15	12	10	6	451
17	5	4	4	3	6	5	I	3	2	3	6	8	8	8	5	2	4	4	I	-0	I	I	3	20	108
18	19	24	24	25	28	29	30	24	23	20	20	2 <u>1</u>	20	20	21	24	23	21	23	18	15	13	15	15	515
19	17	18	16	10	14	II	II	13	10	12	13	13	15	12	16	22	20	26	29	31	36	35	<b>3</b> 2	35	467
20	36	45	40	41	38	40	44	48 68	48 64	47 62	42	33 48	30	28	29 29	24 22	26 25	27 21	31 18	25 14	9 6	5 8	17	5 27	747 762
21	4	2	7	37	34	45	59		33	41	54 42	40	49 37	42 26	<b>3</b> 6	44	63	65	57	55	53	56	45	27	1015
22	20	14	47	57	51 27	33 23	40 23	33 15	13	13	13	11	9	10	11	11	10	7	7	7	3	4	5	- <i>,</i>	342
23	34	26 11	30 23	24 18	25	12	-3 7	15	17	25	10	6	40	50	33	26	43	48	52	51	50	48	41	32	687
24 25	23	15	16	23	17	16	8	16	13	25	18	18	20	24	19	22	24	19	16	17	20	24	26	23	462
25 26	27	31	<b>2</b> 6 ·	<b>3</b> 6	<i>3</i> 6	25	18	23	30	34	31	28	26	6	8	5	8	20	16	13	4	8	11	8	478
27	12	7	8	II	7	6	2	2	6	5	3	4	3	3	8	4	4	1	0	7	7	. 2	2	5	119
28	5	6	9	3	6	3	4	3	4	4	4	3	3	6	2	3	5	6	6	7	3	4	2	11	112
29	13	9	8	19	27	25	25	26	30	33	37	39	42	43	41	42	44	43	41	40	41	39	41	40	788
30	34	34	<i>37</i> ·	35	<b>3</b> 6	34	29	26	24	17	11	15	12	6	3	9	8	25	30	28	6	5	8	12	484
31	3	8	20	21	II	14	18	19	20	. 4	3		14	IO	15	13		14	9	9	12		11	15	11 -
Means	14.I	14.4	16.2	18.2	17.4	15.7	17.2	18.2	18.4	19.1	18.5	18.3	19.7	18.2	17.0	16.6	17.8	18.3	18.4	17.0	13.9	13.5	13.4	14.4	403.8

Total movement during month, 12519 miles; mean daily movement, 403.8 miles; average hourly movement, 16.8 miles

Tabulation of hourly wind records at Teplitz Bay during the month of February, 1904

											W	IND M	lovem	ENT											
Date											For t	he hou	ır pre	ceding	5						1				Daily
	IH	2Н	3н	4н	5н	бн	7н	8н	9н	ІОН	IIH	12H	13Н	14H	15H	16н	17Н	18н	19н	20H	2IH	22H	23H	24H	total
ī	Mi. 9	Mi. 7	Mi. 9	Mi. 8	Mi. 5	Mi.	Mi. 8	Mi.	Mi. 3	Mi. 6	Mi.	<i>Mi</i> . 4	Mi. 7	Mi. 5	Mi. 4	Мі. 6	Mi. 6	<i>Mi</i> . 3	Mi.	Mi. 8	Mi. 9	Mi. 9	Mi. 8	Mi. 7	Mi. 160
2	11	6	8	7	II	14	7	5	15	15	27	14	12	8	8	7	5	8	8	6	4	6	23	24	259
3	18	28	II	13	II	23	30	30	33	33	38	41	45	48	45	40	42	43	52	58	54	48	49	43	876
4	40	43	44	47	48	47	47	45	39	49	48	48	49	52	56	49	40	30	28	II	10	9	11	7	897
5	9	15	14	12	9	9	13	18	23	23	21	21	21	13	8	13	26	28	27	36	37	26	14	7	443
6	16	14	27	35	31	29	26	14	23	38	44	43	39	32	13	8	8	6	2	7	12	10	10	11	498
7	7	7	5	9	IO	16	4	II	II	15	7	4	7	6	5	3	2	I	I	I	I	4	2.	. 7	146
8	6	3	2	4	II	14	9	4	4	6	9	5	2	I	2	5	6	17	7	17	10	6	6.	10	166
9	31	35	28	39	39	19	18	8	20	15	8	15	4	2	5	5	4	6	6	3	I	2	4	5	322
10	8	5	5	4	6	12	16	16	14	15	14	16	20	22	17	15	20	22	21	23	20	22	23	22	378
11	24	24	22	12	10	12	12	9	8	8	5	7	9	12	10	17	9	11	10	II	12	12	8	6	280
12	5	6	4	3	4	2	2	6	I	3	2	I	3	I	2	1	1	2	2	I	1	I	3	2	59
13	3	4	5	7	5	7	IO	12	14	12	10	II	13	14	13	14	18	20	18	21	17	18	18	20	304
14	20	17	20	21	29	31	27	22	23	25	28	25	29	24	10	12	10	IO	9	10	II	15	19	17	. 464
15	16	12	7	12	18	15	8	4	7	5	I	0	4	3	2	2	3	6	15	4	6	II	21	23	205
16	18	17	15	14	15	16	17	14	5	9	14	3	7	0	I	3	I	I	2	I	2	I	2	4	182
17	18	26	29	34	35	35	32	31	39	37	45	51	53	48	41	39	37	41	42	44	35	43	45	40	920
18	45	41	42	28	21	15	15	19	19	18	19	20	20	19	20	19	19	14	15	II	IO.	10	II	8	478
19	4	I	I	0	0	2	3	I	0	2	I	2	0	I	2	0	0	2	2	6	10	12	32	42	126
20	46	53	51	61	57	42	41	50	48	55	53	44	45	51	53	47	51	39	31	18	II	12	12	12	983
21	9	8	6	0	1	7	6	2	10	20	19	24	33	31	25	32	37	41	44	46	55	54	57	52	619
22	52	43	42	42	43	38	43	34	23	38	46	44	46	44	44	42	38	38	39	38	42	43	43	<b>3</b> 6	981
23	32	37	33	28	16	14	17	19	21	20	21	17	16	16	14	8	9	13	9	7	5	I	5	9	387
24	11	24	42	49	55	5 <i>7</i>	59	57	45	37	<b>2</b> 6	27	31	28	31	23	23	25	26	25	20	20	17	15	773
25	15	15	20	20	22	19	20	20	21	20	18	19	24	17	21	21	20	19	16	13	10	11	8	4	413
26	3	I	2	4	5	8	10	ΙΙ	II	13	14	12	13	14	13	14	14	17	23	25	22	16	18	24	307
27	43	37	34	30	24	22	20	19	18	17	16	II	6	4	3	2	2	3	4	3	4	6	14	7	349
28	3	4	4	3	3	2	I	4	14	14	14	12	11	10	6	5	3	3	2	I	3	5	6	9	142
29	17	23	26	24	36	49	54	56	52	45	37	38	32	27	20	20	17	13	8	14	12	18	22	24	684
Mean	18.6	19.2	19.2	19.7	20.0	20.0	19.8	18.8	19.4	21.1	21.1	20.0	20.7	19.1	17.0	16.3	16.2	16.6	16.7	16.2	15.4	15.6	17.6	17.1	441.4

Total movement during month, 12801 miles; mean daily movement, 441.4 miles; average hourly movement, 18.4 miles

Tabulation of hourly wind records at Teplitz Bay during the month of March, 1904

Det												IND M													
Date											For th	ne hou	r pre	ceding	<u> </u>										Daily total
	IH	2H	3н	411	5н	6н	<b>7</b> H	8н	9н	ЮН	IIH	12H	13н	14H	15 <b>H</b>	16н	17Н	18н	19н	20H	21H	22H	23H	24н	totai
I	Mi.	Mi. 18	Mi. 12	Мі. 5	Mi.	Mi. 2	Mi. 7	Mi. 3	Mi. 4	Mi.	Mi. 14	Mi.	Mi. 21	Mi.	Mi. 16	<i>Mi</i> .	<b>Мі.</b> 9	Mi. 8	Mi. 6	<i>Mi</i> .	Mi. I	<i>Mi</i> . 8	<i>Mi</i> . 3	Мі. 8	Mi. 217
2	12	12	9	10	3	9	11	10	9	9	10	17	20	19	12	11	19	15	14	11	10	14	15	14	295
3	15	10	8	6	5	0	2	3	2	7	10	8	6	7	2	22	43	58	61	65	54	32	19	20	465
4	25	35	40	38	33	33	37	39	41	40	39	<b>3</b> 6	37	<b>3</b> 6	38	34	33	28	30	28	25	22	22	17	<b>78</b> 6
5		15	12	11	8	3	2	I	I	2	2	1	4	3	2	17	25	40	41	32	39	43	45	41	406
6	35	30	24	16	10	10	9	13	15	15	8	3	4	I	4	4	. 3	3	5	6	4	6	6	8	242
7		II	7	14	20	17	13	14	15	19	22	22	10	II	4	19	21	24	15	13	14	12	13	18	360
8	11	4	9	11	10	14	17	18	13	11	17	8	7.	7	6	5	4	4	I	3	I	0	0	0	181
.9	0	0	I	0	4	5	6	6	8	7	8	9	8	8	9	9	9	12	12	9	7	6	9	7	159
10	4	5	5	4	4	5	4	2	3	5	3	I	0	0	0	0	0	3	5	4	5	5	3	2	72
II	5	6	7	5	4	2	8	6	7	7	9	8	8	12	19	18	22	20	12	2	I	0	I	0	-
12	4	3	3	6	8	2	5	16	4	8	19	6	7	6	2	3	2	0	I	0	0	I	2	2	110
13	5	I	3	I	3	4	4	Ĭ	0	2	0	I	2	I	3	3	2	2	2	1	3	2	2	3	51
14	2	2	3	2	2	3	3	3	4	3	I 0	3	I	1 6	12	10	2	1	2	1	3	2	I	3	51
15	I	I	2	2	0	I	1	2	2	3	8	3	5 1	2	0	2	9 0	7 3	5	9	3	3 2		3	95
16	2	2	I	3	I	1	0	1	I	0	2	2	1	I	2	2	0	3 I	3 2	0	2	6	3 4	7	37 49
17	2	2	2	I	2	I	I	3	3	2	0	ı	3	3	ı	2	1	2	1	I	15	19	22	19	122
18	11	10	3	I	0	I	3	I	0	I 4	8	3	1	2	I	ı	0	1	I	5	8	7	8	7	241
19	24	25	23	21	20	27 6	22	13	9 <b>0</b>	4 1	1	3	3	2	2	7	16	49	59	61	66	62	59	68	522
20	10	13	12	11 58	10	6 46	0 64	65	61	51	43	51	65	61	55	53	49	41	30	23	10	5	4	5	1093
21	72	68	62		51	•	9	6	7	4	9	13	18	18	22	20	21	27	29	28	24	19	19	17	
22	11	7	5 18	4 22	20	5 17	15	18	19	16	17	19	19	22	22	26	<b>2</b> 6	27	26	25	25	28	27	24	513
23	18	17	22	22	24	22	22	21	22	21	19	17	17	16	12	11	ю	9	8	4	4	5	5	4	363
24	25	2I I	1	4	I	1	I	0	o	0	I	0	I	o	I	0	0	0	o	8	19	24	6	5	78
25 26	4		0	1	2	2	4	II	8	10	2	o	2	1	2	13	8	3	4	5	ı	6	7	9	102
26 27	I 7	o 7	3	2	7	7	9	7	0	o	0	2	5	8	10	8	7	6	10	15	16	19	15	12	182
27 28	7 10	15	14	13	13	9	12	18	22	22	20	19	19	18	18	19	18	19	17	15	13	12	7	5	367
Į.	5	6	7	4	3	3	8	5	6	I	4	2	5	4	6	14	10	12	12	10	14	24	42	48	255
29	48	47	53	47	23	23	22	28	30	27	18	14	9	9	14	19	18	14	8	5	3	2	2	1	484
30	1	5	8	7	7	6	7	10	10	13	11	12	11	12	14	12	12	11	11	n.	11	11	10	10	236
31	13.4	3	- T	T 4 T				I.I I	0.5 1	O.I 1	10.5	9.9	0.3	O.I 1	O.I	12.1	12.9	14.5	14.0	13.0	13.0	13.1	12.3	12.5	279.7

Total movement during month, 8672 miles; mean daily movement, 279.7 miles; average hourly movement, 11.7 miles

Tabulation of hourly wind records at Teplits Bay during the month of April, 1904

											Wı	ND M	OVEME	NT											
Date						•				I	or th	e hou	r pre	eding						<del></del>					Daily
	IH	2Н	3Н	4н	5н	бн	7н	8н	9н	юн	пн	12H	13H	14H	15H	16н	17H	18н	19H	20H	2IH	22H	23Н	24H	total
ı	Mi. 10	Мi. 9	Mi.	Мі. 6	<i>Mi</i> . 3	Mi.	Mi. 8	Mi. 9	Mi.	Mi. 8	Mi.	<i>Mi</i> .	Mi. 8	Mi. 9	Mi. 6	Mi.	<b>Mi</b> .	Mi.	Mi. 6	Mi.	Mi.	Mi.	Mi.	Mi.	II .
2	5	4	4	3	4	5	4	5	7	7	5	2	3	2	2	2	3	5	7	6	7 6	3 <sup>-</sup> 5	4 5	5 8	158
3	8	7	7	6	6	5	5	6	5	2	2	3	4	4	4	2	2	3	4	4	5	3	2	4	
4	3	2	0	0	0	0	2	2	3	4	2	2	4	8	16	19	23	25	30	27	29	21	16	18	256
5	18	18	18	19	17	16	16	14	15	18	12	13	11	11	13	15	14	15	15	16	15	13	II	10	353
6	10	11	14	8	2	2	4.	4	3	4	3	I	5	9	14	19	23	21	17	II	11	6	3	7	212
7	I	5	I	2	I	6	3	2	I	2	3	2	1	1	2	2	1	2	2	4	2	3	I	3	53
8	2	3	3	2	2	I	3	I	3	0	I	1	0	2	I	0	o	7	I	3	3	3	3	2	47
9	2	4	2	0	2	0	I	2	2	I	2	I	2	0	2	I	I	2	2	I	2	3	3	4	42
10	2	3	2	3	2	2	0	2	2	2	0	I	I	3	2	2	2	3	6	2	2	2	3	4	53
11	5	8	12	6	12	14	13	24	31	33	14	21	10	17	9	10	14	12	7	12	6	7	7	9	313
12	4	8	8	10	14	10	II	10	11	10	8	6	7	4	5	4	2	2	6	7	6	9	9	10	181
13	9	9	II	10	14	15	15	15	16	17	19	21	20	22	21	20	18	18	18	16	17	16	16	17	390
14	18	17	19	18	17	17	18	16	14	14	12	10	II	10	9	9	10	10	8	3	6	6	4	2	278
15	3	3	4	2	5	2	3	4	2	I	6	9	13	9	6	3	4	3	4	3	6	7	7	6	115
16	7	8	6	5	7	9	7	4	6	12	11	14	II	6	8	10	15	17	17	16	13	11	10	6	236
17	7	6	3	12	10	-0	6	16	6	6	8	10	10	9	3	5	14	18	13	18	4	2	3	9	206
18	11	17	20	18	18	18	21	21	14	4	5	2	4	5	8	12	19	17	16	15	14	13	12	8	312
19	9	II	4	5	3	2	3 58	1 60	1 61	5 63	2	2	0	3	2	19	24	30	29	29	31	35	38	33	321
20 21	38	41 28	40 32	40 32	46 38	54 37	39	39	40	40	54 38	53 38	59	53	52	47 6	41	42	47	47	45	42	38	35	1156 617
21	32	16	19	32 I4	8	5	39	13	5	6	4	30 I	37	30 2	17 3	1	5 1	12	20 I	10	10	11 2	1 I 2	15	142
23	2	4	3	2	3	2	3	2	2	2	I	0	4	4	7	6	ı	4	4	6	5	~ 5	2	4	78
24	6	6	5	7	5	2	3	6	8	5	3	2	5	5	11	13	18	19	15	14	15	22	21	18	
25	22	27	28	29	28	26	22	16	12	10	11	5	5	5	5	5	6	6	8	8	13	12	10	7	
26	7	6	6	5	6	8	6	9	9	10	9	9	9	8	6	4	5	6	6	6	7	5	4	1	li
27	3	2	I	I	1	1	4	2	3	3	3	5	5	3	2	2	I	ı	I	I	I	I	o	o	47
28	o	I	0	0	0	o	o	0	I	I	o	0	0	4	7	7	I	5	7	9	11	9	9	10	82
29	8	9	6	7	5	5	8	9	7	7	7	5	6	4	3	3	2	3	2	2	1	2	3	1	115
30	2	3	2	2	3	4	2	2	3	2	3	3	4	2	6	2	3	4	5	2	3	2	2	3	69
Means	9.0	9.9	9.5	9.1	9.1	9.3	10.0	10.5	10.1	10.0	8.5	8.3	8.8	8.5	8.4	8.8	9.3	10.6	ю.8	10.2	9.9	9.4	8.6	8.8	225.3

Total movement during month, 6761 miles; mean daily movement, 225.3 miles; average hourly movement, 9.4 miles

Tabulation of hourly wind records at Teplitz Bay during the month of May, 1904

											W	IND M	lovем	ENT											
Date											For tl	ie hoi	ır pre	ceding	ζ					·					Daily
	IH	2Н	зн	4н	5н	бн	7н	8н	9н	юн	IIH	12H	13H	14н	15H	16н	17н	18н	19н	20Н	21H	22H	23Н	24H	total
I	Mi. 3				Mi.	Mi. 3	Mi.	Mi.	Mi.	Mi.	Mi.	<b>Мі.</b> 6	Mi. 8	Mi. 3	Mi.	Мi. 5	Mi. 9	Mi.	Mi. 8	Mi. 8	Mi.	Mi.	Mi. 12	Mi.	Mi.
2	و		•		_	11	12		9	9	11	10	II	10	13	11	10	8	9	12	14	12	11	9	251
3	9	11	12	12	12	12	12	12	12	11	11	11	8	8	8	11	12	13	15	14	11	10	6	6	259
4	9	10	10	8	I	1	2	2	1	3	3	3	2	3	3	2	5	4	2	2	I	2	I	o	80
5	2	2	I	4	3	2	4	5	7	12	12	II	10	15	13	13	5	3	4	2	3	3	2	2	140
6	2	I	5	3	5	8	8	9	10	9	12	14	8	8	14	21	14	13	22	10	3	5	3	3	210
7	4	2	I	I	I	I	2	2	2	I	2	I	2	I	I	3	4	6	3	3	3	4	5	2	57
8	ı	4	. 2	6	7	6	5	6	5	6	5	6	6	8	6	6	6	8	8	11	10	15	14	15	172
9	15	14	13	14	12	13	II	11	12	10	12	13	16	14	13	14	13	9	9	4	3	4	4	3	256
ю	4	2	2	10	10	11	10	_	II	12	12	12	10	6	3	I	I	3	I	I	2	3	6	9	153
11	11	11		_	16	13	15		17	19	20	18	14	14	12	13	I2 -0	9	12	14	II	10	12	4	319
12	4	4	•	_	3	2	. <b>I</b>	7	10	6	12	15	24	16	18	20	18	16	21	18	15	17	19	16	287
13	14	5 8		•	5	5	3 8		3	4 1	4 1	I	5	5 17	5 16	4 17	3 17	3 14	3 18	19	19	I 17	16	15	97
14	21	20			<i>7</i> 18	<b>7</b> 19	20	_	18	15	18	19	22	22	24	21	20	16	17	20	28	33	29	23	502
15 16	14		19		16	14	15		18	20	19	15	19	18	19	16	18	17	-7 17	18	16	11	14	10	377
17	8	6			12	11	12		12	13	9	7	8	7	7	4	6	6	6	2	5	8	6	5	189
18	8	4	5	5	3	ı	8	10	10	11	12	II	10	10	9	9	11	8	6	3	4	I	I	7	167
19	7	5	4	7	II	17	20	23	24	21	21	13	7	14	16	17	17	18	18	15	17	16	14	16	358
20	13	10	8	6	7	7	7	7	10	8	4	14	17	16	12	7	8	8	5	3	4	4	7	8	200
21	9	9	9	9	13	II	15	13	9	8	21	27	25	29	24	12	9	10	11	9	3	12	12	11	320
22	12	11	11	11	9	9	ΪI	8	15	20	24	31	34	31	35	38	39	37	41	39	40	38	38	38	620
23	42	43	45	43	44	38	33	28	28	21	13	10	12	14	.16	17	18	22	24	23	31	30	23	27	645
24	20	35	38	28	31	25	17	8	10	11	9	9	11	13	15	15	12	12	9	10	9	6	6	4	363
25	4	4	5	4	2	5	8	9	12	II	13	14	14	14	17	18	16	16	17	16	15	17	17	17	285
<i>2</i> 6	17	16	14	13	14	14	15	16	16	15	17	16	16	16	14	14	12	12	13	12	13	12	13	11	341
27	11	12	13	15	20	20	22	23	21	24	23	21	21	23	23	22	22	17	15	17	14	10	8	7	424
28	6	6	6	8	5	3	6	4	6	6	4	0	1	5	7	10	12	12	16	16	15	15	19	17	
29	14	16	18	20	22	25	18	12	7	7	7	8	13	16	14	II	7	3	2	1	3	9	13	16	282
30	16	7	9	7	4	2	0	9	9	9	9	9	8	8	8	7	8	12	14	13	14	14	14	13	223
31	12	13	11	12	12	12	10	II	10	10	8	6	7	7	4	4	4	I	3	I	3	4	2	3	
Means	10.5	10.1	10.3	10.8	10.7	10.6	10.7	10.7	10.8	10.8	11.5	11.4	11.9	12.0	12.0	12.4	11.9	11.3	11.9	10.9	10.9	11.5	11.2	10.6	208.5

Total movement during month, 8325 miles; mean daily movement, 268.5 miles; average hourly movement, 11.2 miles

Tabulation of hourly wind records at Teplitz Bay during the month of June, 1904

į											W	IND N	Íovem	ENT											
Date										]	For th	ie hou	ır pre	ceding	ζ										Daily
	IH	2H	3н	4н	5н	бн	7н	8н	9н	юн	пи	12H	13H	14H	15H	16н	17Н	18н	19н	20H	21 H	22H	23Н	24H	total
1	Mi.	Mi.	Mi.	Mi.	Mi. 4	Mi. 4	Mi. 3	<i>Mi</i> . 3	Mi. 7	<b>Mi.</b> 6	<b>Мі.</b> 6	Mi. 6	Mi. 5	Mi. 8	Mi. 10	<i>Mi</i> .	Mi.	Mi. 6	Mi. 4	Мі. 4	Mi. 3	Mi.	Mi. 9	Mi.	Mi.
2	7	11	14	14	10	7	7	25	20	6	10	28	26	32	33	<b>2</b> 6	30	12	21	16	15	22	24	20	436
3	12	23	27	23	21	23	10	7	7	7	3	3	4	4	5	4	3	3	9	9	14	15	IJ	6	253
4	5	8	4	4	5	7	9	11	9	10	8	6	9	9	8	7	6	6	4	7	6	7	6	II	172
5	12	II	13	13	13	13	13	4	0	3	I	2	2	3	3	3	1	1	2	I	4	17	16	12	163
6	6	7	14	9	3	7	15	18	22	17	12	14	11	11	7	2	r	3	I	I	7	4	8	9	209
7	6	2	2	I	I	0	I	I	2	4	I	4	4	4	4	4	6	7	6	7	7	8	7	8	97
8	9	9	7	7	8	8	5	6	9	7	10	13	13	15	14	13	13	16	14	12	11	II	12	15	257
9	11	16	17	16	19	22	23	24	22	21	20	21	23	22	21	18	18	17	16	14	12	10	9	8	420
10	12	9	10	8	9	8	10	8	9	10	8	8	8	8	8	6	5	7	5	6	5	6	4	2	179
11	6	4	6	7	7	6	7	8	7	6	9	5	5	5	4	3	3	I	I	1	I	2	3	6	113
12	5	5	6	9	II	11	9	11	10	10	12	10	11	II	10	10	10	8	7	8	7	8	9	10	218
13	13	13	13	15	15	14	17	16	14	18	13	16	9	4	9	15	19	26	29	31	<b>2</b> 6	21	24	24	414
14	22	24	22	23	15	20	31	20	29	33	29	37	40	40	36	42	48	40	27	25	27	24	22	20	696
15	17	18	18	17	28	23	24	21	22	23	22	20	18	15	12	7	4	3	5	4	1	0	0	7	329
16	7	6	7	8	8	12	14	15	15	17	19	20	19	21	20	21	22	22	23	23	23	22	21	20	405
17	21	19	20	18	17	18	16	12	16	17	9	7	15	15	15	14	14	15	14	13	12	11	11	11	350
18	II	11	9	7	8	6	6	3	3	2	2	3	2	2	I	I	I	2	8	3	6	9	7	9	
19	6	2	3	1	3	9	19	18	16	14	24	25	24	23	22	20	18	21	20	19	19	22	19	15	382
20	13	11	13	13	9	I	3	2	3	1	5	8	14	14	15	11	2	5	2	4	13	18	9	4	193
21	2	9	17	12	3	2 I	2	0	1	1	4 6	8	8	3	2	2	5	I	I	0	I	I	2	5	11
22	0	2	1	I 2	0	1	9	4	2	3	2	3	I	3	2	3 8	3	2	0	3	0	2	I	1	-
23 24	5	3 7	1	5	0	5	6	3 9	8	7	8	8	7	2 8	5 9	8	8	7 8	5 8	6	0	5	4	5 8	11
24 25	7	12	12	13	10	11	14	13	14	16	18	16	11	12	10	10	9	9 7		7 9	3	4 7	7 8	7	
26	7	8	8	8	8	8	8	8	7	6	7	5	4	5	6	3	6	6	<i>7</i> 5	4	9	3	4	3	ŀ
27	3	3	I	I	I	2	0	I	,	I	ı	0	0	0	0	o	1	1	0	0	0	1	4 I	3	li
28	1	0	0	ī	I	0	0	0	0		I	0	2	1	1	4	4	3	6	7	7	9	9	9	
29	8	7	7	4	3	3	3	2	2	I	2	I	0	1	0	3	2	2	3	7	16	18	16	ľ3	
30	12	6	23	28	26	16	4	9	8	8	10	7	7	9	10	9	9	8	7	8	12	12	8	8	
Means	8.3		10.0																					<del></del>	230.0

Total movement during month, 6901 miles; mean daily movement, 230.0 miles; average hourly movement, 9.6 miles

### METEOROLOGICAL OBSERVATIONS

Tabulation of hourly wind records at Teplitz Bay during the month of July, 1904

											Wı	ND M	OVEMI	ÇNT											
Date										F	or th	e hou	r pred	eding											<b>Da</b> ily
	IH	2H	3н	4н	5н	6н	7н	8н	Эн	юн	пн	I2H	13Н	14Н	15H	16н	17н	18н	19н	20H	21 H	22H	23Н	24Н	total
1	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Мі. 6	Mi. 8	<i>Mi</i> .	Mi.	Mi.	Mi. 14	Mi. 16	М1. 16	Mi. 16	Mi.	Mi.	Mi.	Mi. 9	Мі. <b>4</b>	Mi.	Мі. 6	Mi.	Mi. 193
2	7	13	11	9	7	8	7	9	7	6	8	6	7	9	10	7	6	7	6	5	7	4	6	5	177
3	9	7	3	8	7	8	9	6	7	8	9	8	9	10	9	10	II	11	10	8	8	8	5	6	194
4	5	5	6	5	3	6	5	8	9	10	11	13	11	11	11	10	9	9	7	4	5	6	5	3	177
5	2	I	I	2	2	3	2	3	4	4	4	4	4	5	7	8	7	9	9	11	11	11	12	12	138
6	13	9	9	9	8	10	7	8	6	5	4	4	2	I	2	2	ı	4	8	9	9	20	14	20	184
7	7	8	23	23	18	11	17	12	15	9	10	8	6	6	4	5	2	5	3	5	II	12	14	12	246
8	13	10	9	7	6	8	IO	13	18	5	11	10	10	8	2	4	2	2	2	2	4	2	2	I	161
9.	0	I	0	2	I	2	3	5	3	9	8	5	7	7	3	6	6	3	2	I	0	1	0	I	<b>7</b> 6
10	0	I	0	2	2	3	2	4	4	3	3	4	4	5	6	5	4	4	4	5	5	3	4	4	81
II	2	0	0	I	4	5	7	9	8	9	7	5	5	6	7	6	6	6	7	7	8	6	9	8	138
12	6	5	6	5	7	5	7	9	9	9	9	II	11	II	II	10	10	8	8	9	10	10	II	11	208
13	8	9	8	8	7	5	5	4	6	6	6	7	7	6	7	6	4	4	4	5	8	7	8	8	153
14	5	4	7	6	5	4	5	4	2	3	I	2	3	7	5	12	14	II	5	6	9	6	6	10	142
15	12	7	12	13	7	6	7	6	12	9	9	6	19	25	28	28	39	19	23	12	19	17	18	18	371
16	17	28	50	48	39	37	46	50	47	53	53	60	60	58	55	54	54	55	56	60	60	65	62	60	1227
17	60	51	49	50	51	49	4I -0	20	38	43	53	57	57	54	50	35	40	47	51	46 -6	45	47	40	31	1105
18	25	30	33	31	35	35	18	29	34	35	33 1	30	28	29	27	31	29	25	20	16	18	17	11	3	
19	I	I	4	I	3	4	4	3 1	3	3	3	4	7	1	2	0	2	0	3	I	I	I	2	6	
20	3	4	3	2	2	I	0	6	6	9	7	10	8	4 6	3 6	4 5	5 5	3	3 7	5 9	5 8	5	3	4	
21	3	5	6	7	4	5 0	4 0	ı	0	0	,	0	3	1	1	1	I	3	3	0	4	3	5 3	4	
22	3	3	2	0	0	0	1	I	I	1	2	5	2	1	4	7	8	6	6	7	11	8	3 7	8	
23	I	0	0		7	6	10	10	15	12	8	5	7	12	6	9	9	9	3	4	7	4	5	6	
24	8	10	9	7 3	3	10	10	12	13	8	7	6	19	27	14	6	16	8	10	12	5	5	I	3	
<b>25</b>	5	4	4	3	5	3	0	4	4	3	2	2	3	4	2	4	3	2	2	I	2	2	1	1	
26 27	3	3 1	0	1	2	1	I	4	4	3	ı	2	2	2	2	3	2	4	7	5	4	9	3		
27 28	2		6	3	1	2	3	11	4	3	4	16	20	19	21	20	18	17	17	17	6	5	8		
	4	7	7	8	9	7	5	5	4	4	4	4	4	5	7	9	9	10	8	9	7	7			11
29	10	14	16	17	15	15	18	18	16	19	20	19	17	15	14	12	10	10	8	8	7	_			1
30	10	12	12	14	13	11	11	12	13	11	10	9	7	8	9	9	8	7	9	9		_	_	_	1
Moone	8.3		9.7		8.8					10.2	10.4	10.9	11.8	12.2	11.3	11.1	11.4	10.5							241.3
Means	0.3	0.5	3.1	<i>y</i> .0									}										٠.٠	,	1

Total movement during month, 7480 miles; mean daily movement, 241.3 miles; average hourly movement, 10.1 miles.

Tabulation of hourly wind records at Teplitz Bay during the month of August, 1904

											W	ир М	OVEMI	ENT											
Date							·			]	For th	ne hou	ır pre	ceding	5										Daily
	IH	2Н	3н	4H	5н	бн	<b>7</b> H	8н	он	юн	пн	12H	13Н	14H	15H	16н	17н	18н	19н	20Н	21H	22H	23Н	24H	total
I	Mi. 6	Мі. 6	Mi.	Mi.	<i>Mi</i> . 5	Mi. 6	Mi.	Mi.	Mi.	Mi.	Mi.	Мi. 8	Mi.	Mi.	Mi.	Mi. 7	Mi. 6	Mi. 6	Mi. 6	Mi. 7	Mi. 7	<i>Mi</i> . 5	Mi.	Mi. 3	
2	О	4	5	2	2	7	9	8	6	9	12	11	10	8	14	17	17	16	17	20	17	15	15	15	256
3	15	16	14	15	21	20	17	19	17	12	17	17	16	19	20	21	18	16	15	12	14	14	13	12	390
4	9	12	10	7	6	3	4	2	3	2	3	3	3	I	0	2	6	8	12	13	15	14	14	14	166
5	14	14	15	17	15	12	12	12	9	9	8	9	8	8	7	5	3	1	1	0	I	3	I	٥	184
6	I	2	4	9	10	12	14	13	10	15	19	19	15	16	10	6	3	4	4	6	4	9	7	9	221
7	10	7	3	4	10	10	II	13	7	3	0	3	3	4	3	3	4	3	4	7	12	7	4	.8	143
8	19	16	12	17	21	29	32	30	27	28	30	29	29	29	23	32	28	31	34	35	31	26	7	22	617
9	34	37	26	41	33	25	19	14	21	16	12	14	II	7	9	6	7	4	2	I	I	2	I	I	344
10	0	2	0	0	0	0	0	1	I	I	3	3	6	5	5	5	3	3	4	5	4	5	4	5	65
II	4	2	4	3	4	4	2	4	6	3	0	2	2	I	3	2	3	1	2	2	9	6	14	13	96
12	19	21	19	8	10	27	17	14	8	8	12	13	6	13	13	7	10	13	15	17	16	18	20	24	348
13	20	22	25	26	20	18	25	25	21	25	26	19	9	II	14	15	14	18	17	20	25	25	22	22	484
14	24	22	24	21	20	16	9	9	10	10	6	5	6	I	7	7	7	6	3	2	3	2	2	4	226
15	2	3	3	I	2	I	4	3	6	5	I	4	4	I	I	I	I	2	I	I	2	4	2	7	62
16	7	14	7	3	2	I	I	3	3	2	1	1	2	I	4	3	2	I	3	0	5	7	7	8	88
17	4	8	14	8	8	14	10	7	10	5	2	4	3	4	2	I	I	2	2	2	3	2	I .	0	117
18	I	0	I	2	0	0	0	1	3	0	I	2	4	6	2	2	2 6	2 6	3	1	0	3	I	0	32 116
19	3	1	1	3	2	I	4	2	4	3	4	2	3		5 2	4		7	5 11	9	13	15	10	4 10	114
20 21	3	3 7	3 7	4 8	10	4 9	3	3 7	5 8	<b>4</b> 5	13	22	26	5 16	15	15	3 11	13	23	23	4 17	12	10	9	306
ź2	10	8	10	8	7	4	6	9	11	7	5	6	8	8	5	7	9	13	23 9	10	18	19	9	5	
23	3	I	I	3	4	I	2	2	2	3	2	2	4	2	6	7	5	6	7	7	6	7	8	6	il
24	7	4	5	6	7	7	7	7	6	6	5	5	3	4	5	4	5	5	5	5	5	4	3	5	
25	6	5	4	5	4	3	4	4	4	5	5	7	7	7	6	5	3	4	3	3	4	4	I	I	
26	I	3	0	0	0	0	0	1	2	4	2	I	0	2	1	ī	2	3	2	4	5	4	2	2	[]
27	2	2	2	0	I	2	2	2	3	4	8	17	5	14	18	13	13	IO	13	15	13	3	6	6	174
28	3	2	3	2	I	0	3	3	7	I	5	5	9	15	17	18	7	9	20	15	6	3	3	2	159
29	o	I	r	3	r	0	ı	0	0	ı	o	I	I	2	I	o	4	9	10	6	11	13	14	12	92
30	7	4	3	I	0	0	I	I	o	I	I	2	3	I	I	I	1	4	8	9	8	10	10	9	86
31	10	12	10	17	18	17	14	19	19	21	18	16	15	18	20	23	21	17	17	15	18	14	24	29	422
Means	8.2	8.4	7.7	8.1	7.9	8.2	8.3	8.1	8.1	7.5	7.6	8.3	7.6	7.8	8.1	7.8	7.3	7.8	9.0	8.9	9.6	9.2	8.0	8.6	196.0

Total movement during month, 6075 miles; mean daily movement, 196.0 miles; average hourly movement, 8.2 miles

# METEOROLOGICAL OBSERVATIONS

Tabulation of hourly wind records at Teplitz Bay during the month of September, 1904

											Wı	ND M	OVEME	NT											
Date										I	or th	e hou	r pre	eding											Daily
	IH	2Н	3н	4Н	5н	6н	7н	8н	9н	юн	IIH	12H	13Н	14H	15н	1611	17н	18н	19н	20H	21H	22Н	23Н	24Н	total
	Mi.						Mi.		Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.,		Mi. 18	Mi.	Mi.
I 2	10	9	11 26	30	37	41	41 18	48	44	42	44	44 26	45	44	44	41	40	33	36	32	24 36	17	37	23 37	798 668
3	33	24 33	38	29 37	27 37	1 <u>9</u> 36	29	23 28	24 29	24 24	29 25	29	25	25 28	29 30	32 33	29 33	29 21	29 17	33 22	24	35 28	36	42	720
4	40	40	38	34	30	40	30	21	9	6	7	12	15	20	16	14	17	17	19	21	22	22	23	25	538
5	27	27	26	25	25	24	22	23	22	21	22	21	19	19	20	20	20	15	16	15	15	14	19	16	493
6	13	14	14	16	15	15	14	15	15	14	11	10	13	II	8	9	II	13	16	17	16	11	11	<b>1</b> 6	318
7	16	18	21	18	19	20	19	20	18	20	19	18	14	14	12	13	12	11	11	IO	11	9	6	7	356
8	7	5	4	2	3	6	3	2	I	0	I	3	4	ı	1	0	4	7	6	6	5	4	2	1	78
9	О	0	I	0	0	1	0	I	o	I	1	I	1	0	I	4	4	3	3	2	2	5	3	3	37
10	4	I	2	I	3	3	3	4	1	2	3	I	I	1	r	3	2	2	2	2	6	7	6	4	65
11	5	7	12	11	14	19	13	10	9	6	6	16	15	16	16	14	13	10	12	12	14	12	11	6	279
12	5	6	10	II	12	9	9	9	10	10	9	10	13	12	13	14	13	11	II	13	14	15	12	15	266
13	14	13	14	13	11	7	9	6	3	3	1	I	2	5	7	6	8	6	6	6	7	7	4	3	162
14	3	3	5	3	4	3	4	7	6	4	4	I	6	4	7	5	5	9	5	8	15	7	10	6	134
15	6	8	6	5	4	3	10	9	13	6	12	13	10	5	18	15	20	15	7	8	5	5	6	8	217
16	7	9	9	12	12	9	. 9	10	12	16	18	12	7	14	15	9	5	6	8	5	6	6	5	1	222
17	1	2	4	II	17	20	14	18	19	18	15	12	II	8	9	8	7	6	5	7	9	8	4	4	237
18	4	5	2	_	5	7	2	2	2	I	4	6	7	9	8	8	6	6	8	10	14	12 6	9	11	153
19	10	9	II	12	10	13	15	14	16	13	14	15	15	14	I	5	2 I	1	<b>2</b> 6	3	3		5	6	222
20	6	4	4	7	6	8	4	4	3	3 12	3 10	1	3	11	9	4 14	14	3 13	14	5 15	4 12	5 13	9	14	109 256
21	13	10	12	10	9 16	3 14	3 8	2	10 6	5	7	5	4	6	9	4	5	5	4	3	3	5	7	6	180
22	13	14	14	15 14	14	12	12	10	10	14	13	11	9	7	9	12	13	14	11	6	4	2	1	17	244
23	25	32	9 33	40	41	40	38	36	30	27	20	15	6	3	3	6	3	5	22	28	30	35	34	37	589
24 25	36	40	42	43	45	46	41	42	42	43	42	35	35	36	38	43	48	50	44	33	34	48	50	48	11
26	44	44	36	35	35	31	22	16	18	18	21	16	9	7	15	13	IO	9	6	5	9	7	3	4	
27	3	3	3	0	2	4	7	4	4	3	2	2	2	1	3	5	4	4	4	4	5	8	13	17	107
28	20	23	27	27	30	31	34	33	33	32	32	29	22	23	26	29	27	22	15	16	13	11	22	18	II.
29	16	-5 26	25	23	21	20	21	22	23	24	22	21	18	19	18	16	13	13	12	12	12	10	9	8	424
30	8	7	6	6	6	7	6	6	7	7	7	6	5	7	7	4	3	4	3	3	1	I	I	I	119
Means		14.9	15.5	16.5	17.0	17.0	15.3	14.8	14.6	14.0	14.1	13.5	12.5	12.4	13.4	13.4	13.1	12.1	12.0	12.1	12.5	12.5	13.0	13.9	334.I
	<u> </u>												J												11

Total movement during month, 10023 miles; mean daily movement, 334.1 miles; average hourly movement, 13.9 miles

Tabulation of hourly wind records at Teplits Bay during the month of October, 1904

- 11											W	IND N	/Iovem	ENT											
Date											For t	he ho	ur pre	ceding	g										Daily
	ІН	2H	3н	4н	5н	бн	7н	8н	9н	ЮН	IIH	12H	13Н	14н	15H	16н	17н	18н	19н	20H	21 H	22H	<i>2</i> 3Н	24H	total
ı	Mi.	Mi.	Mi.	Mi. 3	Mi.	Mi.	Mi.	Mi.	Mi.	Mi. 3	Mi.	Mi. I	Mi.	Mi.	Mi.	Mi.	Mi. 2	Mi. 2	Mi.	Mi.	Mi. 5	Mi. 12	Mi.	Mi.	Mi. 85
2	27	33	32	25	27	34	35	31	37	32	35	32	30	36	38	45	48	47	50	46	44	54	58	58	934
3	59	61	60	60	63	56	53	62	61	58	57	56	53	52	48	48	47	45	43	42	42	40	40	34	1240
4	31	30	28	40	46	44	45	45	45	45	45	<b>3</b> 6	42	47	54	22	17	25	26	17	15	27	35	39	846
5	47	65	64	63	60	51	30	29	IO	14	14	23	18	33	16	13	47	52	48	48	27	14	23	16	825
6	24	28	32	31	26	14	14	15	11	15	14	13	12	9	10	3	8	8	6	3	2	3	4	4	309
7	5	3	3	4	5	3	3	5	6	4	I	2	7	8	4	12	14	16	13	10	IO	6	7	7	158
8	9	10	9	8	15	16	21	18	14	14	19	18	22	25	21	21	21	16	20	20	17	20	21	18	413
9	15	12	8	24	32	31	28	19	<b>2</b> 6	28	30	30	30	24	27	26	27	33	32	<b>2</b> 6	18	19	17	17	<i>57</i> 9
10	16	10	4	4	6	9	12	14	21	24	23	22	20	18	20	21	21	23	22	22	22	19	19	19	411
··· II	20	23	24	21	20	19	19	21	21	18	18	16	17	14	15	II	9	10	10	II	9	10	7	7	370
12	10	7	8	7	8	16	19	24	22	24	24	29	33	44	50	55	25	42	46	39	36	28	18	17	631
13	11	13	14	17	24	21	14	5	1	0	0	0	6	5	4	6	6	6	12	12	13	16	18	16	240
14	16	21	20	19	18	18	19	21	16	14	10	3	2	2	3	3	4	7	IO	5	5	. II	15	9	271
15	4	5	4	5	4	8	7	5	5	4	3	5	3	I	2	I	4	2	6	5	4	8	9	5	109
16	2	1	I	2	1	4	5	6	7	7	8	8	8	9	12	8	4	3	5	7	10	20	21	24	183
17	23	20	17	21	13	13	16	17	15	14	15	16	13	14	16	15	16	15	12	12	10	12	10	6	351
18	6	4	4	6	7	13	10	9	9	5	8	7	6	5	8	9	13	13	12	8	7	10	8	7	194
19	8	10	10	15	17	16	13	14	10	6	6	I	3	I	I	I	3	I	2	2	2	I	5	5	153
20	6	5	6	6	7	5	6	8	6	6	0	0	9	8	7	9	8	9	3	4	7	6	7	10	148
21	9	7	6	10	9	8	9	10	II	II	9	8	10	14	11	10	II	8	12	II	12	6	I	1	214
22	8	9	4	6	6	7	7	7	6	8	6	4	4	4	3	I	4	2	3	5	6	4	2	1	117
23	0	0	3	13	9	12	14	14	13	8	I	4 8	5	8	5	4	4	4	3	5	4	5	8	9	l.
24	16	19	18	19	24	17	13	10	10	12	13 18	11	6	6	4	5	5	5	3	4	7	5	5 28	5	1 _
25	6	5	4	4	2	3	10	23	25 6				8	35	42	47	50	44	47	47	47	36		25	
26	26	22	20	16	13	10	7 0	4 0	2	5 1	4	9	ı	3	3	1 4	I 2	0	0	2	I 2	2	I	0	
27	0	0	1	1	2		3	1	4	2	1	2	2	2	3	4 2	8	3	7	5	2	1	0		
28	2	1	2	3	3	3 3	3	7	6	6	7	8	7	8	8	8	7	8	8	<i>7</i>	6	5	5	4 6	
29	3	3	5	3	2	4	4	5	4	5	7	8	10	9	8	10	14	16	27	35	39	5 42	50 50	53	
30 31	3 52	3 40	59	ა 60	59	52	52	61	66	65	65	66	70	<i>7</i> 4	73	69	70	69	65	62		34	28	29	#
Means	II																								-

Total movement during month, 11909 miles; mean daily movement, 384.2 miles; average hourly movement, 16.0 miles

Tabulation of hourly wind records at Teplitz Bay during the month of November, 1904

											W	IND M	Iovem	ENT											
Date											For th	ne hou	ır pre	ceding	5										Daily
	ІН	2H	3н	4н	5н	6н	7н	8н	Эн	юн	пн	12H	13н	14н	15H	16н	17н	18н	19н	2011	21H	22H	23Н	24H	total
I	Mi.	₩i. 45	Mi. 47	<b>Мі.</b> 43	Mi.	Mi. 38	Мі. <b>3</b> 6	Mi.	Mi.	Mi.	Mi.	Mi. 38	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi. 810
2	22	18	15	15	12	9	30	34 11	33 7	34 2	35 4	6	35	32 2	34 4	32	35 1	35 1	27 3	<b>24</b> 6	21 7	23 8	24 8	23 9	187
3	9	8	11	10	11	9	9	9	10	9	20	19	24	22	25	24	25	30	29	29	30	32	35	31	470
4	34	36	<b>3</b> 6	34	35	35	29	22	25	28	29	29	31	29	28	27	26	24	20	20	21	16	21	20	655
5	13	7	6	9	12	10	2	2	2	3	3	2	0	0	I	5	5	6	4	2	I	I	o	2	98
6	4	I	0	3	1	0	0	0	I	0	0	I	1	4	3	4	5	6	3	4	3	4	4	3	55
7	3	4	4	4	4	5	3	3	2	3	3	2	2	3	3	3	2	2	0	I	0	I	0	o	57
8	0	0	0	0	I	0	0	1	2	I	I	0	1	0	1	I	0	I	I	I	I	I	2	I	17
9	I	2	2	2	5	4	4	3	I	3	I	0	I	0	0	I	, <b>o</b>	0	2	I	5	19	23	11	91
10	7	8	7	7	6	2	2	I	0	2	I	2	I	I	2	2	0	I	I	2	3	6	8	7	79
11	24	28	28	26	26	25	20	23	26	30	27	12	23	20	25	27 -0	24	24	34	36	39	33	32	34	646
12	34	24	18	17	15	14	18	13	20	23	41	43	39	26	16	18	21	19	14	7	4	6	4	17	471
13	22	22 8	28 9	39 8	36 13	33	34 3	27 2	14	5 6	21	16 12	26	27 13	27 24	23	15	11 48	14	15 58	13	6 60	7 56	4 58	485 604
14	58	60	55	47	31	9 24	20	19	4 22	18	23	25	28	26	24	37 24	44 <b>20</b>	40 2I	55 20	24	57 24	25	23	24	685
16	28	28	27	28	31	30	28	28	29	25	-3 26	25	25	23	22	22	19	16	16	18	<b>1</b> 6	13	-3 17	14	554
17	وا	7	8	II	12	12	24	29	27	28	30	33	32	27	23	20	22	22	23	16	13	10	8	13	459
18	15	12	13	8	9	15	20	18	13	11	11	7	7	10	10	8	4	5	5	7	8	10	9	8	243
19	6	5	I	6	7	6	6	4	4	5	8	4	8	II	9	7	7	6	3	4	4	2	8	23	154
20	6	10	12	8	4	3	2	6	3	7	16	16	14	12	16	17	30	32	33	29	20	12	8	7	323
21	6	6	5	7	6	7	2	0	1	I	0	I	6	7	9	9	ю	11	9	9	9	9	8	5	143
22	6	6	7	6	4	9	5	3	I	2	I	0	2	0	I	0	0	0	0	I	0	0	2	4	60
23	5	7	7	8	9	10	12	II	9	6	7	4	3	0	5	12	13	5	I	13	14	7	12	4	184
24	14	17	14	15	13	14	16	15	14	7	5	5	3	3	6	6	6	5	6	9	8	II	12	11	235
25	10	11	15	10	12	6	7	8	19	5	5	6	39	45	47	43	49	47	33	17	8	10	6	9	467
26	5	22	11	II	8	3	22	33	21	11	33	31	27	28	33	23	18	11	6	5	10	12	19	19	422
27	8	12	10	15	20	25	25	21	21	22	16	11	7	8	8	2	0	3	0	0	0	0	0	O	234
28	2	8	8	8	9	7	3	I	I	0	0	0	I	5	5	6	4	5	5	4	3	3	2	3	
29	2	5	5	3	4	2	4	2	3	2	I	2	2	I	1	I	I	I	I	0	1	0	Ο.	0	44
30	2	0	0	I	0	0	0	0	2	2	2	I	4	4	4	3	4	2	3	5	6	6	4	4	
Maa	[3.4	14.2	13.6	13.6	13.3	12.2	12.2	11.6	11.2	10.0	12.5	11.8	13.5	13.0	13.9	13.7	13.7	13.3	12.4	12.2	11.0	11.5	I2.I	12.3	302.8

Total movement during month, 9084 miles; mean daily movement, 302.8 miles; average hourly movement, 12.6 miles

Tabulation of hourly wind records at Teplitz Bay during the month of December, 1904

											W	IND M	[ovem:	ENT	-			-				-			
Date											For t	ne hou	ır pre	cedin	3										Daily
	IH	2H	3н	4H	5н	бн	7н	8н	9н	юн	пи	12H	13Н	<b>I</b> 4H	15H	16н	17н	18н	19н	20H	2IH	22H	23Н	24Н	total
1.	Mi.	Mi.	Mi.	<i>Mi</i> .	Mi.	Mi.	Mi.	Мі. З	Mi. 3	Mi. 16	Mi.	Mi.	Mi. 38	Mi. 34	<i>Mi</i> .	Mi. 26	Mi. 29	Mi.	Mi. 30	Mi. 35	Mi. 35	Mi.	Mi. 33	Mi.	Mi. 468
2	20	35	34	33	9	10	35	30	39	38	40	35	28	35	31	29	18	13	15	13	13	16	13	11	593
3	12	17	45	42	35	37	37	36	37	15	<b>2</b> 6	32	22	<b>2</b> 6	23	21	20	30	32	12	24	30	27	29	667
4	22	20	19	25	33	20	27	31	25	19	13	11	16	20	9	13	20	27	11	4	4	4	2	3	398
5	1	2	I	I	2	I	2	I	0	2	6	12	16	12	13	11	17	12	11	13	24	14	14	19	207
6	30	24	<b>2</b> 6	32	<b>3</b> 6	20	30	27	29	27	31	36	30	21	9	19	20	24	38	42	44	43	41	39	718
7	33	39	44	50	46	62	67	66	59	45	32	26	25	42	45	45	58	54	55	37	31	39	31	26	1057
8	30	48	46	52	54	57	58	49	55	55	53	34	38	39	51	38	24	27	12	9	12	13	3,3	38	925
9	32	28	23	19	12	9	7	10	10	14	14	12	11	12	11	10	6	3	2	2	2	7	11	17	284
10	21	13	8	42	31	22	16	14	15	32	31	33	27	23	25	<b>2</b> 9	29	19	9	17	52	44	58	53	663
II	52	48	42	41	28	15	II	36	<b>2</b> 9	51	45	22	35	34	30	51	49	50	25	25	42	44	44	47	896
12	49	55	51	34	40	44	40	45	45	43	46	41	42	44	30	20	20	13	30	30	31	33	31	31	888
- 13	29	29	31	29	32	37	39	37	29	31	28	31	42	47	48	47	48	47	43	37	35	34	<b>3</b> 6	36	882
14	45	46	45	42	42	47	42	41	39	34	34	31	26	20	19	23	22	18	13	13	10	10	9	3	674
15	9	11	9	II	9	4	2	2	ı	2	I	3	1	3	2	2	2	2	0	I	0	o	1	1	<i>7</i> 9
16	0	I	2	2	5	3	4	6	20	19	2	О	3	I	2	1	2	0	2	I	2	I	2	1	82
17	6	17	19	10	3	I	I	I	2	1	6	10	10	8	8	ю	8	9	12	16	15	15	27	20	<b>2</b> 35
18	9	10	20	29	27	24	20	9	6	4	3	3	3	3	1	4	8	5	2	2	2	I	2	3	200
19	I	2	2	2	1	2	2	0	3	I	I	0	2	2	2	2	2	2	I	2	I	I	0	1	35
20	I	I	I	I	2	2	2	1	4	I	1	0	0	I	3	4	8	6	3	10	10	12	10	12	<b>9</b> 6
21	2	0	7	15	16	18	19	20	22	16	II	15	12	12	13	17	13	13	16	12	16	16	17	17	335
22	8	7	5	4	12	5	4	2	I	2	4	7	5	6	6	8	8	8	9	8	7	11	IO	7	154
23	8	12	11	11	17	18	16	15	16	17	17	14	12	13	15	19	18	16	18	19	15	12	13	14	356
24	9	4	5	6	7	7	5	7	9	9	4	2	2	I	I	ı	0	0	I	0	I	0	I	0	82
25	0	0	0	I	0	0	0	0	2	I	I	5	0	2	8	2	I	0	0	I	2	I	I	0	28
26	I	I	I	0	I	3	4	2	I	3	16	16	13	22	17	14	16	17	18	17	18	17	10	8	236
27	7	4	6	5	3	2	I	I	I	r	3	7	9	13	16	13	14	10	8	11	10	12	6	19	182
28	19	17	19	17	16	II	15	9	8	5	4	0	I	I	2	I	2	I	I	I	2	I	2	1	156
29	I	4	6	6	5	2	I	3	I	2	2	I	I	I	2	3	3	5	8	9	Ĩ3	14	16	14	123
30	15	14	13	12	13	7	3	15	13	10	9	5	8	I	I	10	13	13	13	10	14	8	6	6	232
31	9	2	2	2	2	4	2	2	8	12	7	15	7	9	8	7	5	6	3	7	6	7	6	11	149
Means	15.5	16.5	17.5	18.6	17.5	16.o	16.6	16.8	17.2	17.0	16.7	15.8	15.6	16.4	15.5	16.1	16.2	15.5	14.2	13.4	15.9	15.9	16.5	16.4	389.7

Total movement during month, 12080 miles; mean daily movement, 389.7 miles; average hourly movement, 16.2 miles

### METEOROLOGICAL OBSERVATIONS

Tabulation of hourly wind records at Teplitz Bay during the month of January, 1905

								7			Wı	nd M	OVEME	NT											
Date										]	For th	e hou	r pre	eding	•										Daily
	IH	2H	3н	4н	5н	6н	<b>7</b> H	8н	Эн	юн	IIH	12H	13н	14Н	15н	16н	17Н	18н	19н	20H	21H	22H	23Н	24Н	total
1	Mi. 13	Mi. 7	Mi. 18	Mi.	Mi. 16	Mi.	<i>Mi</i> .	Mi.	Mi. I	Mi.	Mi.	Mi.	Mi. 3	Mi. 2	Mi.	Mi. 3	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.
2	10	9	8	8	4	4	8	8	7	7	4	6	ī	2	I	I	2	3	2	I	4	1	3	4	108
3	3	2	2	2	2	3	3	I	I	I	2	3	4	2	4	I	8	01	12	II	12	9	5	4	107
4	3	2	2	1	I	I	o	I	I	6	4	3	4	4	5	6	4	5	4	6	7	9	4	5	88
5	5	5	4	4	3	4	4	4	2	I	0	1	ı	o	2	I	r	0	1	0	0	I	I	11	56
6	27	24	5	5	5	8	19	22	<b>2</b> 6	25	33	47	27	18	39	27	18	II	25	23	28	14	14	12	502
7	11	14	11	47	45	20	12	25	44	52	51	52	52	48	38	50	47	35	60	42	31	41	28	27	883
8	36	33	39	42	50	51	56	53	31	12	16	36	42	48	47	55	<b>5</b> 6	50	51	54	57	58	38	15	1026
9	15	7	6	7	6	8	6	5	4	4	3	2	4	5	8	8	10	10	II	II	9	7	18	24	198
10	21	26	25	27	27	20	9	7	14	23	24	24	10	7	6	4	3	2	2	3	6	8	9	5	312
11	15	II	II	12	8	6	8	5	6	4	9	12	4	4	4	3	3	3	2	2	2	2	4	2	142
12	3	2	I	I	2	2	2	2	2	2	I	2	3	3	2	2	6	4	2	2	2	3	3	5	59
13	5	3	3	I	I	2	2	2	I	I	3	2	4	2	2	2	2	I	3	2	2	3	2	2	53
14	I	3	I	4	4	5	4	1	3	2	I	3	2	I	2	2	2	2	2	3	3	2	2	2	57
15	2	3	2	2	2	3	I	1 46	27	1 28	38	3 39	I 20	I 20	I	2	2 31	2 11	11	30 21	26 16	41	45 10	46	231
16	43	40 2	36	43	47	45 2	50 2	3	37 1	20	2	39	29	29 5	19	17	10	10	10	12	11	9	9	5 9	701
17 18	5		3 14	3 17	3 15	14	15	13	13	17	21	23	25	17	13	9	8	11	15	17	19	20	17	14	376
19	14	15 8	7	10	13	3	6	8	8	8	6	-5 5	4	6	7	15	27	33	22	11	11	20	12	11	275
20	11	7	9	5	4	21	16	32	21	6	11	11	6	2	2	1	2	2	2	4	4	5	3	2	189
21	6	5	4	2	4	6	5	2	3	9	9	12	14	16	16	16	14	19	17	15	14	10	10	10	238
22	9	5	4	5	5	4	2	2	3	2	4	4	4	5	8	6	7	7	7	9	10	11	11	IO	
23	9	12	12	11	10	12	11	14	19	24	28	25	24	35	40	45	46	53	53	57	65	66	70	64	805
24	61	56	56	54	28	29	35	32	36	41	44	43	45	45	49	47	46	41	40	<b>3</b> 6	34	38	44	<b>5</b> 5	1035
25	58	48	46	48	47	38	28	25	24	33	32	29	32	27	22	19	17	13	17	14	12	16	15	13	673
26	14	15	18	20	21	20	18	18	17	15	14	11	12	9	8	II	12	9	9	3	4	I	2	4	285
27	7	8	4	4	4	6	5	6	5	5	5	5	7	5	4	5	4	7	10	12	10	12	12	15	167
28	19	27	28	28	33	39	38	43	49	54	55	63	63	65	63	57	55	59	59	57	60	58	59	49	1180
29	53	5 <i>7</i>	5 <i>7</i>	65	70	66	63	54	52	57	63	56	65	61	63	66	71	72	77	67	63	70	59	53	1500
30	42	16	<b>2</b> 6	50	39	11	12	10	15	32	16	15	14	25	23	19	10	10	10	12	11	7	10	7	442
31	11	15	13	13	11	15	21	19	15	20	18	18	16	22	20	18	27	22	23	22	19	19	19	16	11
Means	17.6	15.7	15.3	18.0	17.1	15.5	15.2	15.1	14.9	16.0	16.7	18.1	17.0	16.8	16.9	17.0	17.8	16.7	18.5	18.1	17.8	18.5	17.4	16.4	404.0
	<u>1</u>															-									11

Total movement during month, 12525 miles; mean daily movement, 404.0 miles; average hourly movement, 16.8 miles

Tabulation of hourly wind records at Teplitz Bay during the month of February, 1905

										I	or th	e hou	r prec	eding											
Date											W	IND M	OVEMI	înt											Daily
	ІН	2Н	3н	4H	5Н	6н	<b>7</b> H	8н	9н	ЮН	IIH	12H	13Н	14H	15H	16н	17Н	18н	юн	20H	2IH	22H	23Н	24H	total
	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.
I 2	17	17	19	17 7	17 8	16	18	19 14	18 17	14 21	13 25	24	16	5 23	5 26	30	9 33	9 30	5 31	32	7 32	5 27	3 27	4 28	266 479
3	25	27	22	23	22	22	19	19	19	20	19	14	16	24	25	21	19	17	12	16	20	13	10	12	456
4	10	4	12	16	5	10	8	6	8	17	20	22	18	27	28	18	16	16	12	24	40	43	43	47	470
5	45	44	41	38	38	38	37	33	33	34	37	34	35	31	35	30	34	39	38	37	30	19	35	36	851
6	38	44	42	40	43	46	41	33	29	24	23	24	24	22	20	20	18	17	14	12	7	8	7	3	599
7	7	8	7	5	7	7	7	7	10	9	7	4	7	6	5	8	8	5	7	4	2	3	4	5	149
8	5	3	4	5	3	3	4	5	6	4	4	5	4	5	ı	3	5	6	3	4	4	5	4	3	98
9	4	3	3	4	5	3	4	3	3	3	4	4	5	6	10	4	6	5	5	21	38	42	33	31	249
10	30	33	26	8	12	15	42	41	38	30	29	25	29	27	29	27	29	25	8	17	35	32	12	20	619
11	29	33	31	25	25	26	22	22	26	20	25	27	28	26	27	30	29	29	27	24	II	3	5	8	558
12	IO	4	4	I	4	8	5	4	0	3	5	12	13	15	13	II	6	12	7	3	3	6.	3	5	157
13	3	4	5	6	11	11	13	10	9	3	6	6	6	6	9	6	5	16	10	II	14	8	9	4	191
14	9	14	10	16	8	14	8	4	5	18	. 10	9	15	16	18	16	18	16	18	10	4	4	4	5	269
15	13	8	5	7	4	4	7	12	14	13	12	6	10	8	16	19	19	17	II	11	15	23	25	26	305
16	26	27	30	29	26	24	27	34	39	43	46	47	49	49	44	41	45	46	45	51	54	51 58	45 56	38 58	956
17 18	40	44	45	45	43	47	49	47	58	62	56	44	46	45	45	45 32	44	47 32	48 26	48 38	54 37	31	56 25	28	907
19	45	45 25	45 28	45 26	45 27	45 24	45 28	45 35	40 34	39 36	41 38	39 27	39	34 20	33 18	19	33 24	13	5	6	10	10	14	13	531
20	10	9	6	9	8	8	2	4	5	8	7	9	9	9	9	8	10	9	9	12	11	14	13	11	209
21	9	11	10	2	5	5	4	7	9	6	9	12	15	14	18	24	28	27	26	28	25	22	26	26	368
22	30	32	33	39	35	32	33	29	21	33	38	39	42	37	45	47	52	49	51	48	44	44	31	37	921
23	32	26	42	54	51	49	50	53	49	33	30	42	35	38	42	45	45	41	40	41	41	43	43	45	1010
24	45	45	45	45	45	45	45	45	44	43	41	39	36	35	33	31	26	23	14	20	19	13	7	7	791
25	12	13	8	11	12	6	14	15	9	5	3	4	6	3	4	4	3	5	8	6	10	6	10	17	194
26	16	30	<b>3</b> 6	44	50	55	62	61	59	62	61	<b>5</b> 9	60	бо	53	53	56	49	46	47	41	57	51	50	1218
27	56	53	55	<b>5</b> 6	58	66	55	60	66	71	73	72	68	66	50	52	57	73	65	54	53	54	59	. 55	1447
28	_49	39	31	33	37	33	26	26	30	30	28	28	35	45	47	49	59	41	5	16	41	50	47	11	
Mean.	:3.1	23.2	23.2	23.4	23.4	23.9	21.4	24.8	24.9	25.1	25.4	24.6	25.0	25.1	25.3	24.9	26.3	25.5	21.3	23.I	25.I	24.8	23.2	22.6	581.4

Total movement during month, 16278 miles; mean daily movement, 581.4 miles; average hourly movement, 24.2 miles

### METEOROLOGICAL OBSERVATIONS

Tabulation of hourly wind records at Teplitz Bay during the month of March, 1905

											W	IND M	OVEMI	ÎNT											
Date						ū				]	For th	e hou	r pre	ceding											Daily
	ІН	2Н	3н	4H	5н	бн	7н	811	он	юн	пп	12H	13Н	14H	15H	ібн	17Н	18н	19Н	20H	21H	22H	23Н	24Н	total
I	Mi.	Mi. 17	Mi.		Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	<i>Mi</i> .	<i>Mi</i> .	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi. 4	Mi. 263
2	5	5	3		-3	3	3	3	4	7	8	19	25	22	24	24	24	27	27	20	35	38	38	34	404
3	31	29	33	35	33	27	33	35	40	36	20	7	7	8	11	7	3	I	4	3	8	9	7	4	431
4	5	9	· 12	17	17	15	14	14	19	21	23	29	30	34	35	37	37	40	23	18	18	22	25	25	539
5	26	30	30	34	31	27	27	31	29	35	31	19	13	10	10	6	10	20	16	15	15	15	13	13	506
6	13	12	13	13	6	6	5	3	7	10	12	8	8	8	3	4	4	4	9	10	20	17	17	17	229
7	16	23	26	22	22	22	22	23	24	27	48	49	49	48	55	59	66	68	73	62	64	70	66	68	1072
8	74	78	<b>7</b> 5	<b>7</b> 5	75	<b>7</b> 5	70	65	63	62	14	15	22	31	24	29	44	44	41	44	45	44	43	44	1196
9	46	48	45	45	45	34	20	25	35	33	40	45	18	9	9	10	13	17	20	19	21	20	10	3	630
10	9	7	6	3	4	5	5	4	7	6	4	IO	8	7	10	13	13	10	13	II	14	15	13	10	207
11	14	6	15	37	36	42	41	38	36	40	33	33	29	27	26	23	24	29	31	33	35	35	36	40	739
12	40	37	33	30	29	28	29	36	39	39	37	36	37	34	33	33	36	35	29	28	32	33	31	30	804
13	24	24	24	23	22	19	20	22	21	20	29	31	33	14	39	19	11	9	10	30	25	48	53	43	613
14	36		42		40	40		30	18	28	7	3	7	5	9	7	7	6	7	2	3	2	7	8	432
15	9	9	7		5	6	6	6	5	4	6	7	6	8	8	5	2	4	7	8	12	II	II	9	168
16	8	II	13		11	10	9	7	6	9	10	10	5	3	7	8	6	4	4	4	3	7	9	11	187
17	11	7	8		15	17	13	13	12	10	9	10	10	8	5	5	7	7	8	8	7	4	6	3	215
18	2	3	I		4	6	5	5	3	2	3	2	3	7 8	5 8	5	3	3	4	6	6	6	4	I	92
19	6	I 	0		.0	o -6	0	0	0	0	4	7	8			9	7	18	9 16	11	14 11	15	17	15	149
20	17	17	17		18	16	13 16	13	12	11 7	13	15	17	17	15	13	14 0-	0	0	0	0	11	12 0	0	351
21	19	23	24		0	17 0		0	0	0	0	0	0	0	0	0	0	0	4	3	3	2	5	10	
23	6	5	3	_	1	1	7	10	12	10	8	10	10	11	10	9	10	12	11	13	12	12	13	19	223
24	17	17	19		18	18	17	21	22	18	21	21	15	15	17	17	18	20	20	18	14	II	17	15	420
25	10	9	8		9	9	5	3	I	4	3	2	3	5	7	4	3	1	4	4	3	3	4	8	1
26	5	3	5		8	7	10	3	4	10	22	20	20	23	12	6	4	3	7	7	9	13	16	11	1
27	11	11	13	16	18	19	21	21	17	15	13	13	10	8	7	6	3	3	3	4	5	7	8	9	
28	9	12	16	18	19	15	14	17	18	14	14	II	10	13	12	13	10	13	12	10	10	10	. 12	11	
29	10	10	9	10	10	11	10	13	10	9	8	8	9	9	8	10	7	9	9	9	6	6	5	4	
30	3	6	3	2	2	I	I	3	o	I	o	2	6	9	9	8	7	5	4	5	4	3	2	I	87
31	2	I	I	2	0	I	3	I	I	o	I	2	5	5	6	3	0	6.	·ε` 5	4	4	2	I	o	56
Means	1		16.9	17.6	17.3	16.5	15.7	15.7	15.7	16.2	14.7	14.8	14.0	13.5	14.2	13.1	13.0	14.1	14.1	13.9	15.1	16.1	16.4	15.7	366.8

Total movement during month, 11370 miles; mean daily movement, 366.8 miles; average hourly movement, 15.3 miles

Tabulation of hourly wind records at Teplitz Bay during the month of April, 1905

											W	IND M	lovem	ent											
Date											For tl	ie hot	ır pre	ceding	g										Daily
	IH	2H	3н	4н	5н	бн	7н	8н	9н	юн	IIH	12H	13Н	14Н	15 <b>H</b>	<b>1</b> бн	17н	18н	19н	20H	2IH	22H	23Н	24H	total
I	Mi.	Mi.	Mi. 2	Mi.	Mi. 3	Mi.	Mi. 2	Mi.	Mi. 5	Mi. 6	Mi.	<i>Mi</i> .	Mi.	Mi.	Mi. o	<i>Mi</i> .	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi. 59
2	ı	I	I	6	2	I	1	I	0	0	0	0	0	I	0	0	0	o	0	o	0	0	I	1	17
3	1	o	1	I	2	I	1	I	2	12	5	I	5	8	7	2	2	2	I	0	r	3	5	5	69
4	5	4	5	6	3	3	I	2	o	0	0	0	0	I	3	13	15	35	28	27	57	60	55	51	374
5	39	27	34	19	24	28	27	29	26	28	24	22	22	16	12	2	12	10	12	33	34	33	32	33	578
6	35	38	39	34	35	30	30	29	29	<b>2</b> 6	31	32	28	32	29	32	28	27	29	27	33	<b>3</b> 6	34	34	757
7	36	37	36	38	37	36	33	28	37	46	47	53	60	53	54	58	55	<b>5</b> 6	64	65	57	54	50	47	1137
8	44	41	40	40	35	32	30	28	<b>2</b> 9	30	30	33	30	31	29	27	<b>3</b> 6	<b>3</b> 9	37	37	37	37	<b>3</b> 6	34	822
9	35	35	26	25	28	33	35	37	<b>3</b> 6	37	39	35	35	35	34	28	30	36	21	37	35	37	35	<b>2</b> 6	790
10	31	23	35	36	25	15	20	23	20	24	12	16	17	19	16	16	20	20	18	15	15	14	14	13	477
11	12	12	12	12	12	10	10	10	5	2	3	2	7	4	I	I	I	3	4	4	4	6	4	4	145
12	5	4	5	5	6	5	5	6	4	5	3	3	2	2	I	4	5	4	6	4	4	5	7	6	106
13	9	8	8	8	7	9	10	15	17	17	16	19	19	19	20	21	22	22	21	22	22	23	22	22	398
14	22	21	20	18	21	21	22	17	17	17	20	19	16	15	17	11	II	10	II	II	IO	II	9	8	375
15	6	8	6	8	8	7	8	8	8	7	5	6	9	7	5	I	2	3	11	22	28	30	31	25	259
16	27	27	26	20	18	15	18	37	38	26	13	11	7	9	3	13	25	15	9	7	5	25	28	29	451
17	30	33	31	28	29	27	28	23	9	6	6	2	0	I	I	6	5	I	0	0	0	0	0	0	266
18	0	0	0	I	10	7	I	6	9	2	5	20	17	<b>2</b> 6	28	28	26	28	29	28	28	27	29	25	380
19	21	15	25	26	27	35	35	33	32	33	33	33	32	23	19	20	13	16	18	30	29	27	27	22	624
20	18	14	15	II	12	13	12	10	8	6	6	7	5	4	I	2	I	I	3	0	2	3	I	3	158
21	5	3	3	5	5	2	3	6	6	6	6	7	2	0	3	4	4	5	5	4	5	5	4	6	104
22	3	4	5	4	6	4	3	4	5	7	6	7	9	8	8	7	9	7	8	8	7	7	9	9	154
23	8 6	10	9	10	11	12	12	12	14	12 1	12	11	12	12	12	12	10	7	7	10	12	11	9	8	255 80
24	6		3	4	3 5	3 4	6	1 7	8	9	3 7	2 9	9	5 10	4 7	3 9	3	2 II	3 12	5 9	3	5 8	5 10	4 IC	188
25 26	10	4 10	5 10	11	12	10	10	13	12	16	13	13	17	15	17	20	24	23	25	29	26	26	26	25	413
27	24	23	20	17	20	21	18	18	17	16	13	14	14	14	14	15	16	23 16	18	17	17	16	15	14	407
28	12	10	11	14	14	13	10	7	2	2	2	0	4	5	7	7	5	9	7	4	5	4	6	6	166
29	2	1	3	I	ī	3	1	2	3	I	2	4	3	ı	2	7	7	7	4	4	5	6	4	7	81
30	14	13	12	10	9	9	II	15	15	16	15	18	16	18	16	14	14	10	8	9	9	9	8	7	295
Means																									
									-			•	<u> </u>												]

Total movement during month, 10385 miles; mean daily movement, 346.2 miles; average hourly movement, 14.4 miles.

Tabulation of hourly wind records at Teplitz Bay during the month of May, 1905

											W	ир М	OVEMI	NT											
Date										I	or th	e hou	r pred	eding											Daily
	IH	2H	3н	4н	5н	бн	<b>7</b> H	8н	9н	ЮН	IIH	I2H	Ізн	14H	15H	16н	17н	18н	19н	20H	21H	22H	23Н	24Н	total
I	Mi. 4	Mi. 6	Mi. 9	Мі. 6	Мі. 6	Mi.	Mi. 5	Mi.	Mi.	Mi.	Mi.	<i>Mi</i> .	Mi.	Mi. 20	Mi.	Mi.	Mi.	Mi. 26	Mi.	Мі. 26	Mi. 26	Mi. 26	Mi.	Mi. 26	Mi. 375
2	28	23	23	21	21	19	24	26	<b>2</b> 6	24	28	29	28	28	28	23	19	16	20	21	24	19	16	6	540
3	7	11	5	1	5	I	6	3	2	6	2	2	3	5	8	II	II	9	12	13	17	16	17	17	190
4	19	16	15	12	8	8	8	9	10	10	13	11	8	9	9	10	9	7	7	5	4	4	5	6	222
5	4	3	4	6	13	18	19	20	21	21	21	21	17	16	17	18	18	17	15	14	13	II	11	11	349
6	12	13	14	15	16	16	17	18	19	19	18	17	17	18	16	16	19	17	15	16	13	13	21	22	397
7	26	26	20	11	6	7	4	4	7	7	15	18	17	16	14	12	II	8	9	8	7	6	20	18	297
8	ю	9	7	10	16	18	20	24	25	23	22	23	25	23	22	26	24	21	22	22	21	22	22	22	479
9	18	19	20	23	23	22	20	18	21	17	15	13	12	7	5	5	2	3	4	<b>14</b>	16	17	17	14	345
10	14	II	11	13	15	12	12	12	12	II	10	IO	9	7	5	4	3	I	1	3	3	4	2	1	186
II	3	I	7	7	7	9	8	7	6	5	5	5	6	6	8	9	10	9	II	12	12	12	14	т4	193
12	15	14	14	12	13	12	12	10	10	10	8	8	8	7	10	10	8	4	3	2	4	6	8	8	216
13	9	9	11	II	12	12	12	12	15	14	16	16	14	13	13	16	18	17	16	16	17	18	19	18	344
14	19	19	19	21	18	20	19	19	21	21	19	21	20	16	14	17	16	18	20	23	20	22	23	21	466
15	20	20	19	18	20	17	17	16	16	13	12	10	10	11	13	14	10	10	9	12	12	II	II	14	335
16	14	13	13	12	10	9	8	6	4	2	2	0	3	0	3	5	6	3	3	7	7	6	6	8	150
17	9	12	10	11	7	6	7	7	7	5	7	6	7	7	8	8	9	9	9	8	8	8	9	7	191
18	7	7	7	7	8	7	7	7	6	6	7	7	7	7	6	7	6	5	6	6	5	5	2	I	146
19	1	1	3	7	12	17	16	10	10	21	24	28	28	31	22	23	27	33	28	28	28	27	27	25	477
20	25	24	23	19	18	15	16	18	18	18	19	22	21	18	16	14	8	8	15	24	25	28	28	30	470
21	27	33	<b>2</b> 6	<b>2</b> 6	23	8	7	4	25	25	17	18	20	19	18	20	18	18	19	21	21	19	21	16	469
22	18	<b>2</b> 6	29	29	29	32	27	29	33	34	37	35	29	32	36	37	37	33	34	- 35	31	32	39	38	771
23	39	41	35	38	40	39	39	32	37	25	28	28	31	33	33	39	39	32	21	17	17	16	12	12	723
24	14	21	26	20	18	17	14	14	16	II	13	14	9	12	13	15	17	14	15	15	16	24	32	35	415
25	34	35	32	34	27	37	39	27	22	25	31	31	35	34	27	27	27	<b>2</b> 6	21	20	12	9	9	9	630
26	8	7	6	5	7	10	II	10	9	10	8	6		••	••	• •	••	••	••	••	••	••	••	••	97
27	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	• •	• •	••	••	••	••	
28	••	••	••	••	• •	••	••	••	••	••	••	••	• •	••	••	••	••	••	••	••	••	••	••	••	
29	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	
30	••	••	••	••	••	••	••	••	••	••	••	••	•••	••	••	• •	••	••	••	••	••	••	••	••	
31		••		••	••	••	••		••				•••	0	••	···	••	••	••			••	•••	•••	<b></b>
Means	15.5	16.2	15.7	15.2	15.3	15.2	15.2	14.1	15.7	15.2	15.8	15.8	15.3	15.8	15.2	10.3	15.9	14.6	14.5	15.5	15.2	15.2	16.6	16.0	371.5

Total movement during 25½ days, 9473 miles; mean daily movement, 371.5 miles; average hourly movement, 14.9 miles

# REDUCTION OF OBSERVATIONS AT TEPLITZ BAY Summary of mean monthly daily records at Teplitz Bay October, 1903, to April, 1904

D/ 1	Redu	ced baro	neter		Reading o			Precip	itation	
Month	8н	12H	20H	8н	12H	20H	8н	12 <b>H</b>	20H	Total
October	In. 29.812	In. 29.808	In. 29.807	+ 5.5	+ 5.5	° + 5.1	In. .82	In.	In. ·34	In. 1.29
November	29.486	29.491	29.510	- 9.9	— 8.7	—12.9	.60	.23	-44	1.27
December	29.876	29.874	29.877	-15.7	—15.6	-15.5	.00	.00	.04	.04
January	29.444	29.449	29.483	-14.9	-15.4	-17.7	.91	.48	.27	1.66
February	29.823	29.797	29.810	17.0	-15.5	-15.2	.22	·43	.29	-94
March	29.551*	29.585*	29.566*	-19.3	<b>—20.</b> 5	—I9.2	1.41	.50	.61	2.52
April	29.675	29.673	29.685	9.2	— 7.2	— 9.8	∙57	.14	.23	.94
Means	29.667	29.668	29.677	11.5	-11.1	—I2.2	.65	.27	.32	1.24

<sup>\*</sup> No observations from 7th to 11th.

# Summary of mean monthly daily records at Teplitz Bay—Continued October, 1903, to April, 1904

		Self-reg	istering	Fahrenh	eit therm	ometers	Y
Month	8	Вн	12 <b>H</b>	2	он	Mean	<b>D</b>
	Max.	Min.	Max.	Max.	Min.	of ex- tremes	Range
	0	0	0	0	0	0	0
October  November	+ 8.8	+ 1.1	+ 7.1	+ 8.6	+ 1.6	+ 5.0	10.3
November	- 6.8	-17.9	— 6.9	- 6.2	—16.1	—I2.4	16.5
December		I	I	l	1		10.7
January	-11.7	21.0	<b>—13.</b> 0	—11.2	21.6	—ı6.6	16.2
February	11.5	—23.I	—12.8	9.1	-22,0	15.5	22.1
February	13.6	-24.8	—16.2	—12.4	-25.8	—19.o	19.9
April	—I5.7	-14.3	— 5· <b>5</b>	- 3.3	-13.2	- 9.2	15.1
Means	<b>— 9.</b> 0	—17.o	- 8.8	— 6.5	-16.6	-11.9	15.8

Tabular summary of percentages of observed wind directions at Teplitz Bay
September, 1903, to December, 1903

	5	sept	emt	er,	190	3		Oc	tobe	er, I	<b>9</b> 03		1	VoV	emb	er,	190	3	:	Dec	emt	er,	190	3
ı g	8	H	12	H	20	н	8	н	12	H	20	н	81	H	12	н	20	н	81	н	12	н	20	ЭН
Direction	Obs.	Max.	Ops.	Max.	Obs.	Max.	Obs.	Max.	Obs.	Max.	Obs.	Max.	Obs.	Max.	Obs.	Max.	Obs.	Max.	Obs.	Max.	Obs.	Max.	Obs.	Max.
N NNE NE ENE ESE SSE SSW SW WSW WNW NNW NNW Calm	% 7 30 13 7 7	% 7 333 10 7 7 7	IO	36  7	% 10	% 10	% 16 23 29 3 3 13 3	32	45 3 13 6	% 3 · · · · · 39 · · · · 3 · · · · · · ·	% 16 23 19 10 3	 19  26	% 7 23 13 13 3 10 3 3 3 7	% 10 20 10 3 3 3 10	% 24 14 10 14 3 3 7 17 7	% 21 24 3 14 3 10 3 3 10 7	% 13 7 3 3 10 13	% 10 3 10 7 27 3 3 13 13	% 6 3 10	% 10 39 10 13 3 3 3 10	% 3 13 32 6 6 19 6 10 3 10 3	% 6	% IO	% 6

Tabular summary of percentages of observed wind directions at Teplitz Bay—Continued

January, 1904, to April, 1904

		Jar	uar	у, 1	904			Feb	rua	ry,	1904	ļ		M	arch	1, 19	04			A	pri1	, 19	04	
п	8	H	12	эн	20	н	8	н	12	н	20	н	81	H	12	H	20	H	8	н	12	н	20	н
Direction	Obs.	Max.	Obs.	Max.	Obs.	Max.	Obs.	Max.	Obs.	Max.	Obs.	Max.	Ops.	Max.	Obs.	Max.	Ops.	Max.	Obs.	Max.	Obs.	Max.	Obs.	Max.
N NNE NE ENE ESE SSE SSW SW WSW WNW NNW Calm	% 6 16 29 3 13 3 3 3	% 13 10 29 6 6 23 3 6 3	% 6 16 10 13 3 23 6 3	% 10 13 6 19 10 13 16 10 3	10  39 3	% I3 3 26 10 13 10 6 6	% 14 10 21 10 3 17 3 14 7	% 14 3 14 7 14 3 17	7	% 144 3 7 24 17 3 3 17	% 100 17 14 7 14 3	% 10 331  17  3 10  14	% 19 19 11 11 4 7 11 15	% 23 8 19 8 8 8 4	% 12 12 4 35 4 4 4 8	% 35 15 19 8 4 4 12 4	% 15 26 7 7 11 4 11	% 24 20 4 8 8 4 8 8	% 17 314 17 7 10 3 7 7 3 3	% 28 3 10 7 7 7 10 3 3 3 3 7 7	% 7 3 10 21 7 3 10 14 14	% 17 21 14 7 7 7 7 7 7 7 7 7	% 28 17 10 7 10 3 3 3 14 3	4 4 11 7 14 4 4 

### DIURNAL VARIATION IN TEMPERATURE

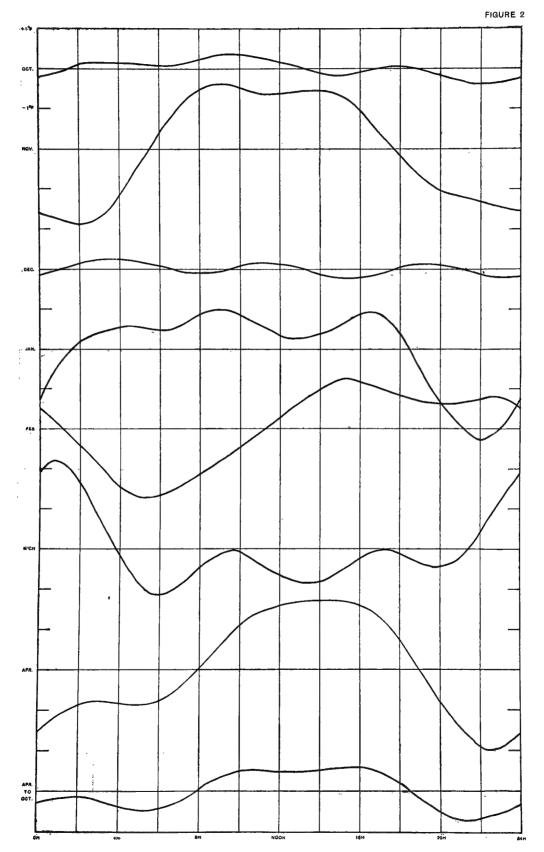
The thermograms obtained at Teplitz Bay from October 1, 1903, to April 30, 1904, at which latter date the thermograph failed, have been reduced to the standard of the thermometer used in the daily observations. By graphical methods the mean daily thermograms for each month of record have been deduced; the diurnal inequalities indicated by these monthly mean daily curves are shown in the following summary, values greater than the mean of day being indicated by plus quantities, and vice versa. The mean monthly values for the corresponding period October, 1899, to April, 1900, as obtained by the Italian Expedition\* are entered herewith for the sake of comparison, the quantities having been reduced to Fahrenheit scale.

Summary of mean monthly diurnal variation in temperature at Teplitz Bay
From thermograms October, 1903, to April, 1904

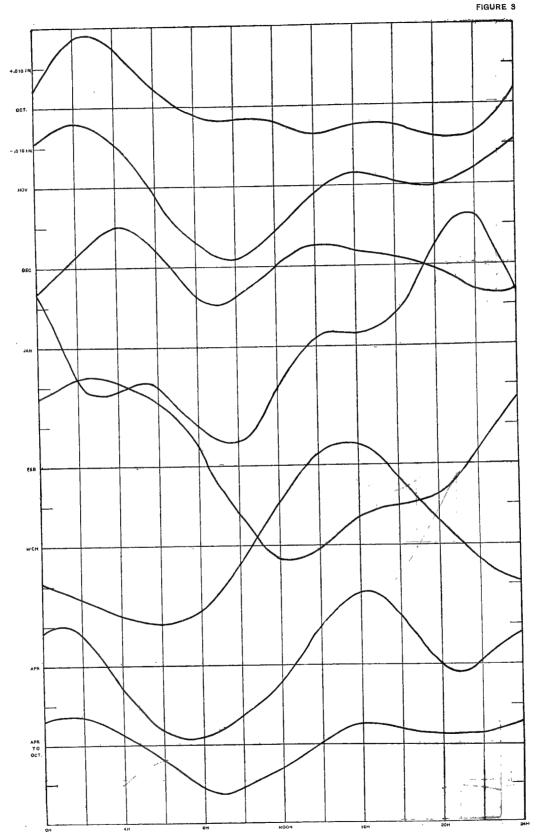
				Month of				October
Local mean time	October, 1903	November, 1903	December,	January, 1904	February, 1904	March, 1904	April, 1904	to April
h	$^{\circ}F$	$\circ_F$	°F	°F	°F	$^{\circ}F$	°F	$^{\circ}F$
О	— o.oɪ	- 1.15	+ 0.17	- 1.15	+ 0.74	+ 1.77	- 1.39	— o.15
2	+ 0.03	— 1.56	— o.24	+ 0.26	o.56	+ 2.16	1.01	— o.13
4	+ 0.02	I.2I	+ 0.51	+ 0.31	— 1.41	- 0.74	— o.89	— o.49
6	+ 0.22	- 0.20	- o.13	+ o.56	1.57	o.86	— o.49	o.36
8	+ 0.19	+ 1.90	+ 0.02	+ 1.03	- I.II	— o.33	0.23	+ 0.21
10	+ 0.25	+ 1.05	+ 0.01	+ 0.50	— o.63	— o.28	+ 1.16	+ 0.29
12	+ 0.22	+ 1.78	+ 0.14	+ 0.52	+ 0.42	<b>—</b> 0.62	+ 1.70	+ 0.59
14	— o.o6	+ 1.95	- 0.12	+ 0.64	+ 0.91	<b></b> 0.62	+ 1.51	+ 0.60
16	— o.3o	+ 0.45	- 0.29	+ 0.18	+ 1.16	— o.39	+ 1.59	+ 0.34
18	+ 0.19	- 0.37	+ 0.08	+ 1.12	+ 0.84	o.16	+ 0.90	+ 0.37
20	0.20	- 1.07	+ 0.18	1.76	+ 0.73	0.18	— o.98	— o.47
22	- 0.57	— I.53	o.38	— 2.22	+ 0.52	+ 0.28	— 1.89	— o.83
Mean month- ly values	+ 5.30	11.84	-15.71	15.92	—15.91	18.98	8.86	11.70
Monthly values 1899-1900	+ 6.01	+ 1.72	— I.55	- 8.57	—16.92	—18.31	- 6.70	6.33

The above series being of only seven months' duration, no very elaborate reductions are possible. Analytical expressions representing the daily variation in temperature have been derived from the results by means of Bessel's periodic function (see page 289) to terms of the third order. The resulting amplitudes and phase angles are shown in the following tabulation, while the curves computed from the same are shown in figure 2.

<sup>\*</sup>Osservazioni scientifiche esquite durante la spedizione Polare di S. A. R. Luigi Amedeo di Savoia, Duca degli Abruzzi, 1899–1900. Milan, 1903. Pp. 331–357. (Relazione sulle osservazioni meteorologiche fatta dal Professore Giovanni Battista Rizzo.)



DIURNAL VARIATION IN TEMPERATURE AT TEPLITZ BAY (Increasing ordinates up denote increasing temperatures,)



DIURNAL VARIATION IN ATMOSPHERIC PRESSURE AT TEPLITZ BAY (Increasing ordinates up denote increasing pressure.)

Summary of amplitudes and phase angles of periodic functions representing the diurnal variation in temperature at Teplitz Bay

 $\Delta t = B_1 \sin (\theta + C_1) + B_2 \sin (2\theta + C_2) + B_3 \sin (3\theta + C_3)$ 

	At	nplitud	les	Pl	iase angl	es
Month	$B_1$	$B_2$	$B_3$	$C_1$	$C_2$	C <sub>3</sub>
1903-1904	$\circ_F$	°F	°F	0 /	0 /	0 /
October	0.24	0.04	0.15	320 42	274 22	349 35
November	1.76	0.21	0.34	274 34	209 03	122 53
December	0.08	0.04	0.17	7 50	276 38	297 18
January	1.08	0.70	0.51	298 55	322 00	18 52
February	1.26	0.40	0.18	182 27	77 37	101 19
March	o.86	0.64	0.65	90 16	78 02	41 35
April	1.65	0.45	0.32	254 37	0 53	4 07
October to April	0.53	0.19	· 0.23	257 52	31 45	34 23

Note.—In these expressions the angle  $\theta$  is to be reckoned from 0 hour A. M. as 0°.

### DIURNAL VARIATION IN ATMOSPHERIC PRESSURE

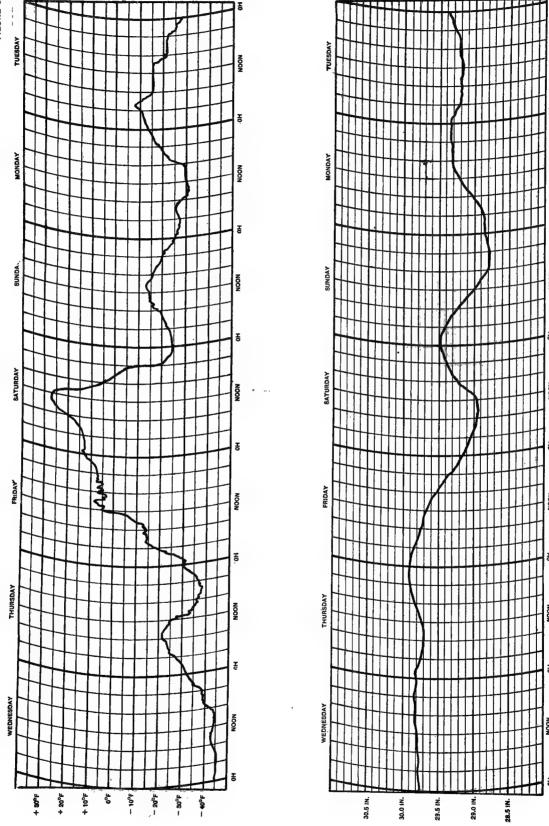
The barograms made at Teplitz Bay during the period of regular daily observation have been reduced to the standard of the mercurial barometer used. By graphical methods the mean daily curves for each month have been deduced; the diurnal inequalities so obtained are exhibited in the table following, pressure greater than the mean of day being indicated by plus signs, and vice versa. The mean monthly values for the corresponding period October, 1899, to April, 1900, as obtained by the Italian Expedition\* are entered for the sake of comparison, the quantities having been reduced to English measure.

Summary of mean monthly diurnal variation in atmospheric pressure at Teplitz Bay
From barograms October, 1903, to April, 1904

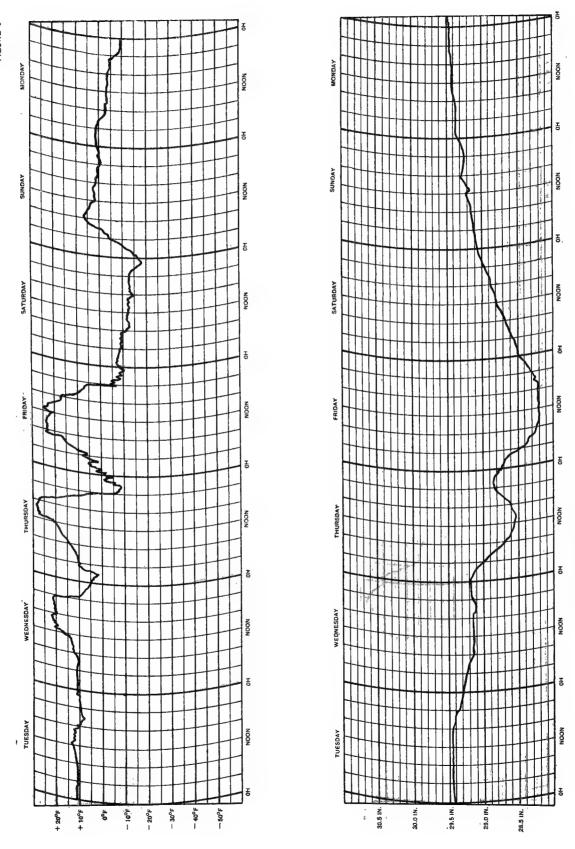
				Month of				October
Local mean time	October,	November,	December,	Jauuary, 1904	February, 1904	March, 1904	April, 1904	to April
h	In.	I'n.	In.	In.	In.	In.	In.	In.
O	+.005	+.018	020	+.015	+.024	004	+.008	+.007
2	+.015	+.013	+.009	012	+.016	o13	+.009	+.005
4	+.017	+.010	+.010	006	+.022	<del></del> .019	008	+.004
6	+.003	óòo.	+.002	016	+.016	o15	<del>-</del> .016	004
8	001	017	006	—.org	+.008	021	017	010
10	ooi	015	001	028	—.o17	.000	or3	om
12	005	012	008	—.oro	—.oi8	+.009	007	007
14	007	005	+ 012	+.003	023	+.027	+.013	+.003
16	004	+.003	+.001	.000	012	+.017	+.014	+.003
18	006	001	.000	+.012	010	+.026	+.011	+.005
20	006	+ 007	005	+.024	005	+.003	+.002	+.003
22	008	006	+.001	+.032	001	008	002	+.001
Mean month- ly values	29.813	29.503	29.882	29.459	29.815	29.605	29.670	29.678
Monthly values 1899-1900	29.553	29.698	30.064	30.027	30.188	29.993	29.914	29.920

In view of the fact that observations for only seven months of the year are available, no very elaborate reduction of the above diurnal variation quantities has been attempted. Analytical expressions representing the daily variation in atmospheric pressure indicated by these results have been derived by means of Bessel's periodic function (see page 289) to terms of the third order. The resulting amplitudes and phase angles are shown in the following tabulation, and the diurnal variation curves computed from the same are represented graphically in figure 3.

<sup>\*</sup>Osservazioni scientifiche esequite durante la spedizione Polare di S. A. R. Luigi Amedeo di Savoia, Duca degli Abruzzi, 1899–1900. Milan, 1903. Pp. 331–357. (Relazione sulle osservazioni meteorologiche fatta dal Professore Giovanni Battista Rizzo.)



BAROGRAM AND THERMOGRAM FOR THE PERIOD NOVEMBER 11 TO NOVEMBER 17, 1903, AT TEPLITZ BAY



BARGGRAM AND THERMOGRAM FOR PERIOD JANUARY 19 TO JANUARY 25, 1904, AT TEPLITZ BAY

Summary of amplitudes and phase angles of periodic functions representing the diurnal variation in almospheric pressure at Teplitz Bay

$$\Delta p = B_1 \sin (\theta - C_1) - B_2 \sin (2\theta - C_2) - B_3 \sin (3\theta - C_3)$$

Month	Aı	nplitud	les	Pi	hase angl	es
Month	$B_1$	$B_2$	$B_3$	$C_1$	C <sub>2</sub>	C <sub>3</sub>
1903-1904	In.	In.	In.	0 /	0 /	0 /
October	.009	.006	.003	34 02	358 55	343 09
November	.oII	.008	.000	97 26	358 28	351 15
December	.000	.007	.003	310 14	332 42	252 02
January	.022	.004	.008	142 24	168 41	189 28
February	.021	.004	.003	52 06	309 06	98 o8
March	.021	.006	,000	209 02	12 19	352 24
April	.012	.009	.003	164 15	15 19	56 19
October to April	.007	.004	.000	126 42	356 16	

Note.—In these expressions the angle  $\theta$  counts from o hour A. M. as o

### DAILY WIND MOVEMENT

Tabulation of mean monthly diurnal wind movement recorded at Teplitz Bay
September 1, 1903, to May 25, 1905

				W	ind mo	vement	for th	e hour	preced	ing			
Month	ІН	2H	зн	4H	5н	6н	7н	8н	9н	IOH	IIH	12H	13H
1903 September October	Mi. 12.2 12.4 16.2	Mi. 12.9 13.2 15.8 22.4	Mi. 12.2 13.3 15.4	Mi. 11.5 14.7 16.1 20.7	Mi. 10.9 14.8 16.0 22.5	Mi. 10.3 15.6 15.1	Mi. 10.3 14.4 15.8	Mi. 11.5 15.6 15.1 28.0	Mi. 11.1 16.1 15.0 27.5	Mi. 12.2 14.1 14.8 25.6	Mi. 13.8 14.5 14.0 25.2	Mi. 14.0 14.6 15.2 26.6	Mi. 12.1 15.0 16.0 26.8
January. February. March. April May June. July August. September. October.	23.2 14.1 18.6 13.4 9.0 10.5 8.3 8.2 14.0 15.0	14.4 19.2 12.9 9.9 10.1 8.9 8.5 8.4 14.9	22.3 16.2 19.2 12.2 9.5 10.3 10.0 9.7 7.7 15.5	18.2 19.7 11.4 9.1 10.8 9.6 9.6 8.1 16.5	17.4 20.0 10.0 9.1 10.7 12.4 8.8 7.9 17.0	23.7 15.7 20.0 9.3 9.3 10.6 8.9 8.7 8.2 17.0 16.5	25.4 17.2 19.8 10.6 10.0 10.7 9.7 8.7 8.3 15.3	18.2 18.8 11.1 10.5 10.7 9.4 9.5 8.1 14.8 16.5	18.4 19.4 10.5 10.1 10.8 9.5 10.4 8.1 14.6 16.0	19.1 21.1 10.1 10.0 10.8 9.2 10.2 7.5 14.0	18.5 21.1 10.5 8.5 11.5 9.4 10.4 7.6 14.1 14.9	18.3 20.0 9.9 8.3 11.4 10.2 10.9 8.3 13.5	19.7 20.7 10.3 8.8 11.9 10.1 11.8 7.6 12.5
November December	13.4	14.2	13.6 17.5	13.6 18.6	13.3 17.5	12.2 16.0	12.2 16.6	11.6 16.8	II.2 17.2	10.0 17.0	12.5 16.7	11.8	13.5 15.6
January	17.6 23.1 15.9 15.6 15.5	15.7 23.2 16.5 14.4 16.2	15.3 23.2 16.9 14.9	18.0 23.4 17.6 14.1 15.2	17.1 23.4 17.3 14.3 15.3	15.5 23.9 16.5 13.7 15.2	15.2 24.4 15.7 13.5 15.2	15.1 24.8 15.7 14.3 14.1	14.9 24.9 15.7 13.8 15.7	16.0 25.1 16.2 13.9 15.2	16.7 25.4 14.7 12.6 15.8	18.1 24.6 14.8 13.6 15.8	17.0 25.0 14.0 13.8 15.3
Mean of all Mean year 1904	14.3	14.5	14.6	14.9	14.9	14.4	14.5	14.8	14.8	14.6	14.7	14.8	14.9

Tabulation of mean monthly diurnal wind movement recorded at Teplitz Bay—Continued
September 1, 1903, to May 25, 1905

Month			W	ind mo	vement	for the	e hour	precedi	ing			Average
	14 <b>H</b>	15H	16н	17H	18н	19н	20H	21H	22H	23H	24H	daily total
1903	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.	Mi.
September	11.3	12.3	12.6	13.8	14.6	13.8	14.8	14.3	14.5	13.4	13.1	302.9
October	15.I	14.1	12.2	0.11	12.5	11.4	11.2	10.9	11.2	II o	11.6	320.4
November	16.7	15.5	16.1	15.9	15.6	15.9	16.9	17.4	16.4	16.9	16.8	380.7
December	25.8	26.3	26.4	24.5	22.8	21.8	25.3	24.I	24.7	23.7	24.9	590.3
1904	_			_	_						' '	-, -
January	18.2	17.0	16.6	17.8	18.3	18 4	17.0	13.9	13.5	13.4	14.4	403.8
February	19.1	17.0	16.3	16.2	16.6	16.7	16.2	15.4	15.6	17.6	17.1	441.4
March	Io.I	IO.I	12.1	12.9	14.5	14.0	13.0	13.0	13.1	12.3	12.5	279.7
April	8.5	8.4	8.8	9.3	10.6	10.8	10.2	9.9	9.4	8.6	8.8	225.3
May	12.6	12.6	12.4	11.9	11.3	11.9	10.9	10.9	11.5	11.2	10.6	268.5
June	10.3	IO.I	9.6	9.7	8.9	8.7	8.6	9.2	IO.I	9.7	9.5	230.0
July	12.2	11.3	11.1	11.4	10.5	10.4	9.9	10 3	10.2	9.5	9.2	241.3
August	7.8	8.1	7.8	7.3	7.8	9.0	8.9	9.6	9.2	8.0	8.6	196.0
September	12.4	13.4	13.4	13.1	12.I	12.0	12.1	12.5	12.5	13.0	13.9	334.I
October	16.8	16.7	15.9	16.8	17.6	18.0	17.0	15.6	15.4	15.5	15.3	384.2
November	13.0	13.9	13.7	13.7	13.3	12.4	12.2	11.6	11.5	12.1	12.3	302.8
December	16.4	15.5	16.1	16.2	15.5	14.2	13.4	15.9	15.9	16.5	16.4	389.7
1905	-6.0			6		-0.						
January	16.8	16.9	17.0	17.8	16.7	18.5	18.1	17.8	18.5	17.4	16.4	404.0
February	25.1	25.3	24.9	26.3	25.5	21.3	23.I	25.I	24.8	23.2	22.6	581.4
March	13.5	14.2	13.1	13.0	14.1	14.1	13.9	15.1	16.1	16.4	15.7	366.8
April	13.5	12.3	12.8	13.7	14.2	14.0	15.6	16.6	17.6	17.2	16.1	346.2
May	15.8	15.2	16.3	15.9	14.6	14.5	15.5	15.2	15.2	16.6	16.0	371.5
Mean of all	14.8	14.4	14.5	14.7	14.6	14.4	14.5	14.5	14.6	14.4	14.4	350.5
Mean year 1904	13.1	12.8	12.8	13.0	13.1	13 0	12.4	12.3	12.3	12.3	12.4	308.1

### REDUCTION OF OBSERVATIONS AT CAPE FLORA

Summary of mean monthly daily records at Cape Flora

June, 1904, to July, 1905

Month	Reduc	ed baron	neter		Reading o			Precipi	tation	
Month	8н	12H	20H	8н	12H	20H	8н	12H	20H	Total
	In.	In.	In.	0	0	0	In.	In.	In.	In.
June	29.84	29.84	29.83	+31.2	+32.3	+31.3	•75	.08	.11	.94
July	29.67	29.68	29.69	+35.7	+36.1	+34.9	.63	.09	-57	1,29
August	29.93	29.93	29.93	+33.6	+34.9	+33.2	1.44	.29	.12	1.85
September	29.56	29.58	29.58	+21.4	+22.0	+20.9	1.10	.12	.13	1.35
October	29.36	29.42	29.38	+13.1	+13.8	+12.0	.99	.47	1.04	2.50
November	29.38	29.42	29.44	-13.4	-13.7	-12.4	.08	.10	-73	.91
December	29.56	29.58	29.58	13.4	-14.2	-14.3	.74	. 23	.71	ı 68
January	29.19	29.22	29.23	<b>—2</b> 0.6	—19.6	-19.4	1.48	.78	1.15	3 41
February	29.39	29.42	29.44	<b>—</b> 7.5	<b>—</b> 7.2	- 8.4	•90	.26	1.17	2,33
March	29.65	29.68	29.68	— 6.0	- 4.7	_ 7·5	1.38	.10	.56	2.04
April	30.09	30.12	30.11	+ 1.5	+ 4.1	+ 4.4	1.03	.16	-37	1.56
May	29.61	29.66	29.67	+23.2	+24.1	+23.9	.88	17	.46	. 1.51
June	29.64		29.67	+30.3		+304	.50		.56	1.06
July	29.89	• • • • •	29.91	+34.1		+33.6	1.28		.62	1.90
Mean June, 1904, to										
May, 1905	29.602	29.629	29.630	+8.2	+ 9.0	+ 8.2	-95	.24	.59	1.78

# Summary of mean monthly daily records at Cape Flora—Continued June, 1904, to July, 1905

	4.5	Self-reg	gistering	Fahrenh	eit thern	ometer	
Month	8	н	12H	20	ЭН	Mean	
	Max.	Min.	Max.	Max.	Min.	of ex- tremes	Range
	0	0	0	0	0	0	0
June July August September. October November December January February March April May June July.	+33·3 +37·1 +35·2 +23·5 +16.2 - 8.9 - 9·3 -14·7 - 3·1 - 2·0 + 5·2 +25·5 +31·6 +35·1	+27.7 +31.6 +30.0 +17.7 +9.1 -17.2 -18.6 -25 0 -13.9 -12.9 -3.5 +20.4 +27.6 +31.1	+33.4 +37.2 +35.8 +22.8 +14.9 -11.4 -10.7 -18.7 -5.2 -3.4 +5.2 +25.4	+34.5 +39.4 +37.7 +24.0 +16.4 -8.9 -11.2 -15.2 -1.5.2 +9.3 +28.3 +28.3 +33.6 +38.1	+29.5 +33.1 +3 · · · · · · · · · · · · · · · · · · ·	+31.2 +35.5 +33.8 +20.6 +12.3 -12.9 -13.9 -19.5 -8.8 -6.9 +3.3 +24.4 +30.7 +34.7	7.2 8.2 8.4 8.8 11.5 13.1 12.7 16.1 15.1 16.2 14.1 9.8 6.5
Mean June, 1904, to May, 1905	+11.5	+ 3.8	+10.4	+12.5	+ 4.9	+ 8.3	11.

Tabular summary of percentages of observed wind directions at Cape Flora
May, 1904, to December, 1904

Direc-	M	ау, 1	904	Ju	ne, 1	904	Ju	l <b>y</b> , 1	904	Αι	ıg., ı	904	Se	pt., 1	904	0	et., 1	904	No	v., 1	904	D	ec., 1	1904
tion	8н	12H	20H	8н	12H	20H	8н	12H	20H	8н	12H	20H	8н	12H	20H	8н	12H	20H	8н	12H	20H	8н	12H	20H
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
N						3	10		10			6	7	13	7	10	IO	IO	10	10	10	20	10	13
NNE									٠.							3			7	3		7	6	10
NE	18	18	18	3	7	7	Iò	ю	13	16	3	ю	3	7	7	10	10	23	17	17	23	3	6	13
ENE	19			10		7			3			3	3			3	6	3				10	.:	
E	9		9	17	27	20	6	3	6	29	26	19	7	7	Io	29	29	35	13	10	3	20	29	.23
ESE		٠.	9		3		10	10	16	6	16	6				6		3	3		3	7	6	6
SE	18	27	18	33	30	23	6	6	10	29	26	29	7	7	7	6	10	3	20	17	17			6
SSE	9				3		3			3	IO		7	3							3			
S						3	3	6	6	6						3	3							
ssw																	3			3				
sw		9		7	10	10		6		3	3		3	3	3			3	3					
wsw		9	9											3										
W	36	27	36	17	13	13	19	19	10		3	10	13	7	17	6	13	IO	7	7	13	3	3	3
WNW	[	9			3	7	3	3			3		13	3		6			[	3			6	. 3
NW				10	3	3	23	29	23	3	3		27	43	50	13	13	ю	10	13	10	17	16	10
NNW							3						3									3		
Calm				3		3	3	6	3	3	6	16	7	3		3	3		IO	17	17	10	16	13

Tabular summary of percentages of observed wind directions at Cape Flora January, 1905, to July, 1905

Direction	Ja	<b>n.,</b> 19	905	Fe	b., 19	905	Mai	rch, 1	905	Ap	ril, 1	905	M:	ау, г	905	Ju	ne, 1	905	Ju	ly, 19	905
Direction	8н	12H	20H	8н	12H	20H	8н	12H	20H	8 <b>n</b>	12H	<b>2</b> 0H	8н	12H	20H	8н	12H	20H	8н	12H	20H
	%	%	%	%	%	%	1%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
N	Io	16	3			4	6	16	6	7	3	3	6	IO	6	10		7			IO
NNE	13	3	10			4					3										
NE	13	13	17	7	18	4	16	10	6	13	7	10	13	13	ю			7	3		
ENE	1		3	7	7	4	3	6	6	10	7	7	6	6	10	7					
E	23	29	23	32	39	39	19	16	19	23	23	23	16	23	6	3		13	13		24
ESE	6	6	10	18	18	11	3		6		3	3	6	3	3	3			3	٠.	١
SE	6	10	10	11		11	3	3		27	17	20		6	3	3		3	13		7
SSE											3		6	3	6						
S							3			3	3					3		3			10
ssw									3	]			3		6	3		3	3		
sw	3		7				3	6			3		3	6	6	13		17			3
wsw							••	6						3	3	3		3			
w	3	3			4				13	7	3	ro	10	6	3	23		20	23	<b> </b>	21
WNW				٠.			3	6	3							3		ю			7
NW	6	3	10	7	7	7	19	16	IO			3	19	16	26	17		7	7		3
NNW									3					[						'	
Calm	16	16	7	18	7	18	19	13	23	10	23	20	10	3	ю	7		7	33		14

### DIURNAL VARIATION IN ATMOSPHERIC PRESSURE

The barograms at Cape Flora have been reduced to the aneroid barometer used at this station and the mean daily curves for each month deduced graphically. The values of the diurnal variation thus obtained are given in the following tabulation, pressures greater than mean of day being indicated by plus signs, and *vice versa*.

Summary of mean monthly diurnal variation in atmospheric pressure at Cape Flora From barograms June, 1904, to May, 1905

Local						Mon	th of						Year
mean time	June, 1904	July, 1904	Aug., 1904	Sept., 1904	Oct., 1904	Nov., 1904	Dec., 1904	Jan., 1905	Feb., 1905	M'ch, 1905	Apr., 1905	May, 1905	June, 1904, to May, 1905
h	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
0	+.002	.000	100.	+.018	009	100. —	+.009	100. +	+.008	— .oog	— .oio	+.009	+ .001
2	+.003	009	004	+.007	+.002	020	+ .001	+.008	002	004	007	— .o12	003
4	+.004	110. —	o10. —	006	007	010. —	004	+.002	016	+.002	007	014	007
6	+.002	014	002	014	015	022	005	002	016	010	009	031	orr
8	+ .004	013	+.003	c23	027	028	011	013	030	020	013	038	017
10	100. —	006	005	016	003	015	006	+.001	017	006	005	— .o15	008
12	+ .001	002	+.006	004	+ .026	+.003	+.009	+ .013	002	+.006	+ .015	+.008	+.007
14	+.004	+.007	+.005	+ .008	+.025	+ .016	+.007	+.004	+ .008	+ .015	+ .oro	810. <del>+</del>	110. +
16	+.005	+ .015	+.006	+ .011	+ .014	+ .015	+ .008	+ .008	+ .011	+.009	+.009	+ .021	110. +
18	004	+ .010	oor	+.009	+ .014	+ .023	+ .008	003	+.014	+.007	+ .004	+.023	+.009
20	009	+ .011	.000	.000	007	+.027	.000	012	+.020	+ .010	+.009	+ .021	+.006
22	010	+ .010	+ .001	+ .012	009	+ .022	015	100. —	+ .023	+.002	.000	+ .008	+.004
Mean monthly values	29.839	<b>29.68</b> 0	29.926	29.581	29.39 <b>I</b>	29.412	29.576	29.206	29.419	29.671	30, 105	29.647	29.621

As the above results depend upon an aneroid barometer on which correction to standard was obtained only before and not after the completion of the work, and as the constancy of adjustment of the instrument is in doubt, it has not been thought advisable to make any extended reductions from the Cape Flora results. Formulæ representing the diurnal variation have been derived from the observations, as above, by means of Bessel's periodic function (see page 289) to terms of the third order. The resulting amplitudes and phase angles are shown in the following table, and the curves computed from the same are represented in figure 4.

Summary of amplitudes and phase angles of periodic functions representing the diurnal variation in atmospheric pressure at Cape Flora

$\Delta p = B_1 \sin (\theta)$	$1+C_0+$	$B_0 \sin (2\theta \cdot$	$+ C_{\rm o}) + E$	3, sin (	$3\theta + C_{\rm s}$
--------------------------------	----------	---------------------------	--------------------	----------	-----------------------

	An	nplitud	les	Pl	iase angl	es
Month	$B_1$	$B_2$	$B_3$	$C_1$	$C_2$	$C_3$
1904-1905	In.	In.	In.	0 /	0 /	0 /
June	.004	.004	.003	324 47	2 29	83 09
July	.014	. 000	.000	179 10		151 42
August	.004	.000	.003	224 07	104 02	138 59
September	.014	.009	.003	145 59	39 28	110 19
October	.016	.013	.006	219 37	29 16	289 20
November	.026	.000	006	177 24	158 12	221 47
December	006	.006	.003	202 56	17 21	4 14
January	<b>0</b> 00	.009	.000	259 13	38 27	303 41
February	.022	.003	.003	158 44	79 00	213 43
March	.oIo	.006	.006	191 57	5 30	254 54
April	.011	000	.006	209 37	40 22	253 55
May	.027	.007	.003	177 27	42 45	273 OI
Year	.011	.006	.000	184 31	33 41	240 57

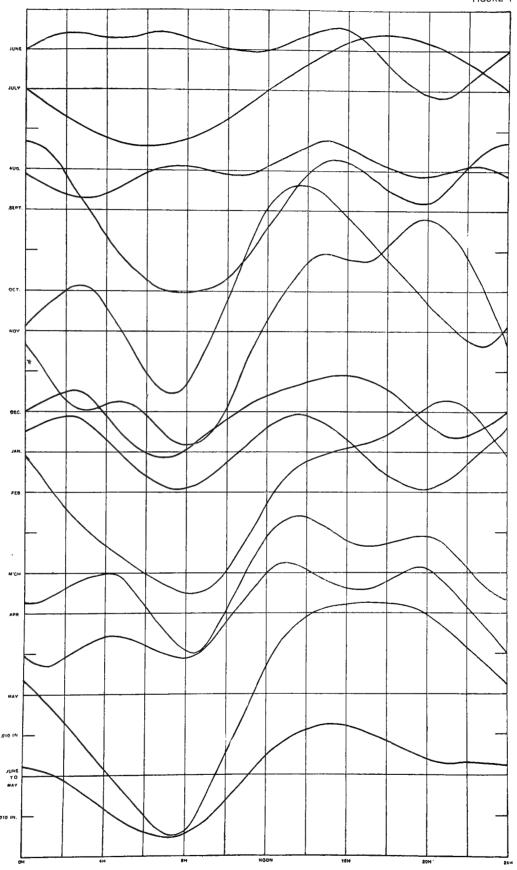
Note.—In these expressions the angle  $\theta$  counts from 0 hour A. M. as 0°.

#### GENERAL REMARKS

It is of interest to note that the corrections necessary to the means of the daily observations made at 8 A. M., noon, and 8 P. M. to obtain the mean results from continuous registration of atmospheric pressure and temperature are small. Thus at Teplitz Bay this correction over the period of observation to reduce the mean of the three daily readings of thermometers to mean thermogram is —0.10° F; corresponding correction for atmospheric pressure is —.005 inch. At Cape Flora, where only barograms were made, the correction is —.003 inch.

In connection with storm periods it was found that the temperature was even a better means of forecasting than the barometer, sudden and rapid rising of temperature being almost always accompanied by severe storms. Typical storm thermograms and barograms recorded at Teplitz Bay are shown in figures 4 and 5.

As will be seen from the tabulations of percentages of observed wind directions, the prevailing winds at Teplitz Bay are from the east; during September to December, 1903, in general from the east and southeast; during January and February, 1904, in general from the east and south; during March and April, 1904, generally from the north and east. At Cape Flora, as already stated, the proximity of the high cliffs interferes with the winds; as recorded the prevailing winds during October to April are from the east and northeast, during May to July from the west and northwest, while during August and September they are variable with no very decided preponderance of direction. The summary of hourly wind movements at Teplitz Bay does not indicate any very characteristic diurnal variation over the mean period of record.



DIURNAL VARIATION IN ATMOSPHERIC PRESSURE AT CAPE FLORA (Increasing ordinates up denote increasing pressures.)

### MISCELLANEOUS OBSERVATIONS

As already stated, meteorological observations were made at fixed stations other than those reported upon above. These are for the most part only occasional and irregular, for which reasons it has not seemed desirable to make any attempt to compile them for publication. However, the observations made in the course of the several sledge trips are valuable and of interest as affording some general gauge as to the conditions of travel in the archipelago during periods of relatively high temperatures, such as were encountered by the parties on these trips.

Meteorological observations on march north from Cape Flora to Teplitz Bay
September 27 to November 20, 1904

Date	L. M.	Fahrenheit temperature	Prevailing wind	Remarks
1904	h m	0		
Sept. 2	7		sw	Camped in high drifting wind at Camp Point
2	В А. М.	+14	sw	Cloudy; high drifting wind
2	A. м.	+16	w	Clear; first attempt to cross De Bruyne Sound; obliged to return
3	8 00	+16	w	Cloudy; drifting wind; impossible to cross sound
Oct.	1 8 oc	+21	SE	Cloudy; high drifting wind
	2	Rising	SE	Cloudy; storm continued
	3		SE	Cloudy; storm continued; maximum + 34°
	٠٠٠٠٠	Falling	SE	Cloudy; ice in sound grinding its way seaward
	5 6 oc	+26	N	Clear; light airs from north; many open lanes in sound; all
	12 00	+23		ice broken and in motion
1	<b>9</b> 00	+19		Misty; calm
	12 00	+23	***	
	7 A. M.	+23	SE	Dense mist; snowing; light breeze
;	12 00	+26	SE	Misty; sleeting; variable airs
9	12 00	+26	SE	Misty; snowing
10	12 00	+16	NW	Clear; high drifting winds all night
	18 00	+10	NW	
1	9 00	— I		Clear; impossible to cross sound
	18 00	+ 9	s	
1:	9 00	+ 9	SE	Cloudy; high drifting wind and rising temperature
	17 30	+31		
13	12 00	+27	N	Clear; light breeze
14	8 00	0	N	Misty
	12 00	— 2		
	P. M.	4		
15	8 00	+11	SE	Clear; strong breeze; ice in motion
16	6 00	4	sw	Heavy mist
	12 00	+ 8		
17	900	+31	Var.	Cloudy; heavy rain; sound open in several places
18		+27	wsw	
	18 00	+ 5	WNW	Sound filled with ice from NW
19	8 30	— 2	N	Lanes in sound freezing over; clear
_,	17 30	4		Minimum — 6°
20		О	SE	Minimum — 8°; clear; light breeze
	17 00	+ 2	SE	Minimum — 5°; light breeze
21	1	+ 6	sw	Minimum + 1°; cloudy; drifting wind
	10 00	1	in sw	,
	17 00	+14	NW	

Meteorological observations on march north from Cape Flora to Teplitz Bay-Continued

Date	L. M. T.	Fahrenheit temperature	Prevailing wind	Remarks
1904	h m	٥		
Oct. 22	6 90	0		Sun disappears for the winter; minimum — 12°
	8 00	+14		Left Camp Point at 6:00
	17 00	+ 4	NE	Cloudy; camped on ice cake De Bruyne Sound
23	6 00		NW	Clear; full moon; minimum — 5°
	15 30	9	N	Clear; camp at Hooker Island
24	8 00	0		Clear; minimum — 1°
	18 00	<del>-</del> 7	sw	Minimum — 9°; light breeze; camp at Hooker Island Glacier
25	A. M.	+ 4	NE	Minimum - 12°; cloudy; drifting wind
	16 00	+ 3	NE	Cloudy; high wind; storm bound
26	A. M.	<b>—</b> 9	N	Foggy; minimum — 13°
	16 00	<b>- 9</b>		Foggy; minimum — 19°
27	A. M.	-23		Reached channel ice; camped Allen Young Sound; hazy;
	15 00	<b>—</b> 4		minimum — 27°
28	A. M.	0	SE	Foggy; minimum5°
	Р. М.	- 4		Camp at Cape Breresford, Bliss Island
29	A. M.	-23		Clear; minimum — 23°
	Р. М.			Arrived Camp Ziegler, Alger Island
30		+ 4	NW	Cloudy; storm bound at Camp Ziegler
31		+15	E	Minimum o°; strong easterly gale
Nov. 1	. }		E,	Minimum — 11°; strong easterly gale
2			NW	Partly clear; wind in gusts; minimum — 18°
3		<b>-</b> 9	w	Partly clear; minimum - 29°
4	AM.	— 5	E	Strong east wind in gusts; minimum — 10°
	14 00	— 5		Minimum — 7°
5	A. M.	<b>—2</b> 0		Clear
	16 30	-17		Camp at Cape Triest
6	15 00	十 9		Camp at Weiner Neustaft Island
7	8 00	—2I	••••	Reached Kane Lodge on Greely Island
9	8 00	-19		Clear; minimum — 29°
	15 00	21		Cloudy; camp on Kuhn Island
10	7 30	-13		Clear; minimum - 26°; rough ice
	15 00	—r3		Cloudy; foggy
11	8 00	—r3		Foggy; minimum — 18°
	13 00	4	NE	Rough ice
12	8 30	<del>- 5</del>	ENE	Strong wind; minimum 7°
	13 00	- 6		
13	8 30	-17	N	Partly clear; minimum — 18°
	12 00	-22		Camp at Coburg Island
14	9 00	-17		Clear; minimum —23°
	12 00	-11	E	Cloudy; camp at Hohenloh Island
15	7 00	+23	w	Cloudy; drifting; storm bound
ĺ	12 00	+ 9	w	
16	17 00	-11	sw	Cloudy; flashes of auroræ
17	• • • • •	Rising	sw	Cloudy; foggy; storm bound
18	A. M.	Falling	wsw	Cloudy
1	14 00	24	w	Clear; minimum — 24°
19	8 00		W	Clear; minimum — 26°
20				Arrived at Camp Abruzzi ; misty

# Meteorological observations on sledge trip south from Teplitz Bay to Cape Flora April 30 to May 16, 1904

Observer: FRANCIS LONG

Date	Mean temperature	Prevailing wind	Remarks
1904	0		
April 30	10		Clear; left Teplitz Bay at 7:45 P. M.
May 1	10	*****	Clear
2	16		Clear
3	-12	NW	Cloudy; drifting wind
4	<b>–</b> 8	SE	Clear; light breeze
5	<b>—</b> 2	NE	Clear; strong breeze
6	+ 4	NE	Clear; strong breeze
7	+ 7		Cloudy and misty
8	+ 5	SE	Fog; light breeze; snowing
9	+ 8	SE	Cloudy and foggy
10	+25	ssw	Cloudy and foggy; light breeze
11	+16	SE	Partly cloudy; light air
12	+14		Partly cloudy
13	+13		Clear
14	+ 8	NE	Misty; light breeze
15	+ 4	NE	Clear; drifting wind
16	+10	NE	Drifting wind; arrived at Cape Flora at 9 A. M.

Meteorological observations on sledge trip north from Teplitz Bay

March 16 to April 1, 1905

D. 4.	Local time of		Pahrenheit tem- perature		W	/ind	Remarks
Date	observa- tion	Exposed	Mini- mum	eter	Direction	Force	
1905 March 16	h m 20 00	+ 5	0	In.	sw	Light	Cloudy all day; distance traveled about 14 miles, leaving Camp
17	6 30	15	—16		NW	Light	Abruzzi during A. M. Clear morning; north wind at 15h; traveled about 10 miles
	16 00	22					
18	6 30	13.5	25		NW	Breeze	Fog
	12 00	12					
19	5 30	16	-19.5			Calm ·	Misty A. M.; clear P. M.; sun- shine; parhelion
20	5 20	— 5 — 2	21	29.9	SE	Breeze	Snowing; misty; at noon ther- mometer + 10°, with south wind and heavy snow
	17 00	+ 3		22.0	CIII	Light	Fog; cloudy
21	5 20	+ 4	+ 1.5	29.8	sw	Tugut	rog, cloudy
	15 00	-14			-		
22	5 30	—13.5	-23	,			Cloudy
23	6 30	- 3	-13	29.88	SE	Breeze	Cloudy; snowing; ice pressure; sunshine P. M. to 18h; bearing on Cape Fligely 140° SW; began
24	7 30	+ 7 +23.5	+ 35	29.8	SSE	Breeze	retreat Cloudy; snowing; thermometer at noon + 28°; ice under pressure during A. M. and at intervals
25	6 30	+30.5	4	29.85			during P. M. Clear in early A. M.; clouds strati- fied in east; cloudy and snowing
26	6 30	<b>- 9</b>	10	29.82			after 8h. Sunshine all day; high cirrus clouds; dark clouds to east
	16 00	-23.5					
27	6 30	<u>-3</u> 0	31	29.94	w	Breeze	Hazy; sunshine during day; drift- ing snow
28	5 30	-15	-29	30.02	sw	Breeze	Hazy; blowing and drifting all day; no sunshine; land not visible
	15 00	—10					,,
29	6 00	-11.5	-14	29.68	W	Ab't 30 mi.	Sun shining; hazy at distance; drift and fog; strong breeze
	19 30	<b>—31.5</b>					, , , , , , , , , , , , , , , , , , , ,
30	7 00	-28.5	-37.5	29.78	sw	20 to 30 mi.	Sun shining through flying drifts wind in gusts
	13 00	— <b>3</b> o					
31	6 30	<b>—35</b>	-39.5	29.82	sw	15 to 20 mi.	Strong wind; temperature falling on the march
April I	7 00	-39	<b>—45</b>			Calm	Clear sky; sun shining; reached Camp Abruzzi
	12 00			29.78			_

Meteorological observations on sledge trip south from Teplitz Bay to Alger Island
May 26 to June 19, 1905

				May 26	to June	19, 1905			
Date Local time of		Fahren	heit temp	erature	Barom-	W	'ind	Remarks	
Date	observa- tion	Exposed	Mini- mum	Maxi- mum	eter	Direction	Force		
1905	h m	0	0	0	In.				
May 26	9 00	+18.8	+11.5 +16.5	+25 +20		N N		Left Camp Abruzzi at 16h 45m; sun shining; alto-	
27	12 00	+19.2	, ,	·	29.92	w		cumulus clouds Cloudy; stratus clouds ho-	
27	4 00	+25				1		rizon	
28	12 00	+24	+19.6	+29	29.96	wsw	Light	Alto-cumulus clouds; sun shining overhead Cloudy; snowing	
	4 00 16 00	+2I +22	+22	+23.5	29.95	w	Light		
29	6 oo 16 30	+24 +2I	+2I	+31.5	30.01	w sw	Light Light	Cloudy; snowing Hazy; bad vision	
30	7 00	+27	+25.5	+27		SE		Cloudy	
31	17 30 6 30	+29	+27	+29.5	29.94 29.93	SE		Clear Cloudy	
3,	17 30	+28	+26.5	+30.5	30.04	sw	****	Sun out at 21h; fine wavy light cirrus clouds over- head	
June 1	6 30	+27	+26	 Lao r	30.03	SE SE	15 to 20 mi.	Cloudy; wind started at 6h from SE; drifting	
2	8 45	+28.5 +28	+27.5	+30.5 +30.5	30.30 29.98	sw		Cloudy; windy A. M. drift-	
3	20 30 7 00	+28 +26.5	$^{+27}_{+25.5}$	+29 +29	29.99 29.96	SE SW		ing; wind shifting to SE Driving wind from SW,	
Ü	19 00	+27	+25.5	+29.5	29.97	sw		moist, at times filled with hail that cut like a knife; cloudy	
4	4 15 22 30	+29 +32	+28	 +35	29.96	SW Calm		Cloudy	
5	9 00	+30	+30	+36	30.12	Calm		Cloudy	
6	9 30 24 00	+31 +29.5	+30 +29	+44.5 +40	30.12	Calm Calm		Cloudy; light snow	
7	9 00	+32	+30 +31	+36 +38.5	29.96 29.96	Calm Calm		Cloudy; open water holes fill air with vapor	
8	10 00 22 00	+31 +36	+32	+37.5	29.98 29.98	Calm Calm		Cloudy; alto-cumulus at zenith; stratus-nimbus, denoting open water, all	
9	10 00	+27	+21	+29	29.90	N	{ Strong   breeze }	around the horizon Cloudy; sunlight through alto-cumulus and cirro-	
	22 00				29.86	N	Strong breeze	cumulus from 3h to 6h; cloudy at 22h	
10	11 30 23 50	+29.5 +26	+29.5 +25	+41.5 +30	29.94 29.72	Variable SE	Light Light	Cloudy; sunlight through cumulo-stratus from 6h to 9h	
11	6 30 24 00	+29 +33	+25 +30	+30 +38	29.58 29.38	SE SSW	20 to 40 mi. 20 to 30 mi.	SE, veering toward 24h to SSW, varied with down-	
12	5 30 21 00	+33 +33	+32 +32	+34 +36	29.41 29.48	ssw ssw	30 to 40 mi.	pours rain and hail Cloudy; raining in squalls during day; rain-soaked snow makes wet traveling	
13	11 00	+41	lare	+44	29.54		Light	Cloudy	
14	22 00 10 00	+32 +34	+31.5 +30	+43 +35	29.74 29.94	sw	15 to 20 mi.	Cloudy; sunshine intermit-	
	21 00	+33	+33	+43	29.93	SE		tently between 7h 3om and 9h; spots on sun;	
15	12 00	+34	+34	+36	29.78	SE		strong SW breeze all A. M. Cloudy; thick fog; bad	
	22 30	+33.5	+33	+39	29.56	SE SSW	20 to 60 mi.	traveling Thermometers in canoe;	
16			• •				20 to 00 m.	did not attempt to open on account drift and rain; cloudy; storm from SSW irregular, from 20 to 60 miles velocity; rain, hail, sleet, snow; maximum velocity about 20h	
17	00 30 19 00	+30	+30 +26	+36 	29.56 26.56	s sw	25 to 50 mi.	Cloudy; storm with lower temperatures; wind vary- ing from Sto SW; drifting	
18	6 00	+28	+27 +27	+30	29.28	ssw sw	40 to 60 mi.	Cloudy; drifting; storm	
19	12 00 3 00	+3I +28	+31 +27	$^{+27}_{+31}$	29.23	NE		worst during early A. M. Cloudy; arrived at Alger	
,	12 00	+31	+29.5	+33.5	29.76	NE		Island, Camp Ziegler.	

#### SECTION D

# TIDAL OBSERVATIONS

AND

## REDUCTIONS

ВΥ

W. J. PETERS

In Charge of Scientific Work of the Expedition

AND

L. P. SHIDY

Chief of Tidal Division, United States Coast and Geodetic Survey

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TIDE GAUGE AT CAPE FLORA

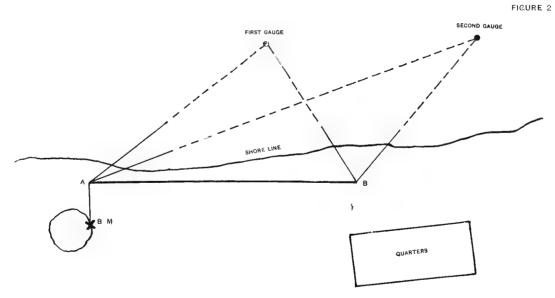
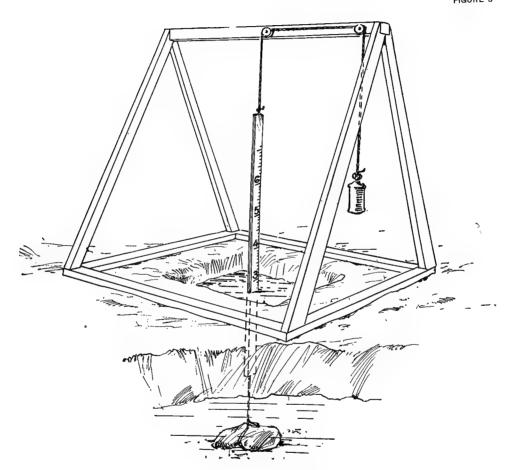


DIAGRAM OF BASE LINE AND BENCH MARK AT CAPE FLORA



TIDE GAUGE AT TEPLITZ BAY

### TIDAL OBSERVATIONS

#### STATION DATA AND METHODS

During the Expedition two valuable series of tide observations were secured, one at Cape Flora, Northbrook Island, and the other at Teplitz Bay, Rudolph Island, in Franz Josef Archipelago. The tides at Cape Flora were observed from May 21 to August 31, 1904, and at Teplitz Bay from April 1 to June 3, 1904.

The gauge at Cape Flora was a plain wooden staff, graduated to feet and tenths, which was wedged in between boulders on the shore (see figure 1). A gale having destroyed the gauge, a new one was set up in the same manner on July 18.

The gauge at Teplitz Bay (see figure 3) consisted of a heavy wooden framework supporting two pulleys; a wire, attached at one end to a lead weight of 149 pounds lying on basaltic rock at the bottom of the sea 35 feet below the surface, passed over the two pulleys and terminated in a counterpoise weighing 49 pounds. A light, graduated wooden rod six feet long was attached firmly to the wire to serve as a tide staff. The staff remained stationary, while the framework and ice on which it rested rose and fell with the tide.

At Cape Flora a bench mark was established on a large basaltic boulder near the shore and marked by a painted cross. The base line A B = 262.5 feet in figure 2, and angles were measured to the bench mark and different positions of the tide gauge. The bench mark corresponds to a reading of 14.65 feet on first staff and to 14.70 feet on second staff. The series was all reduced to the first tide staff, on which mean sea level corresponds to a reading of 6.076 feet.

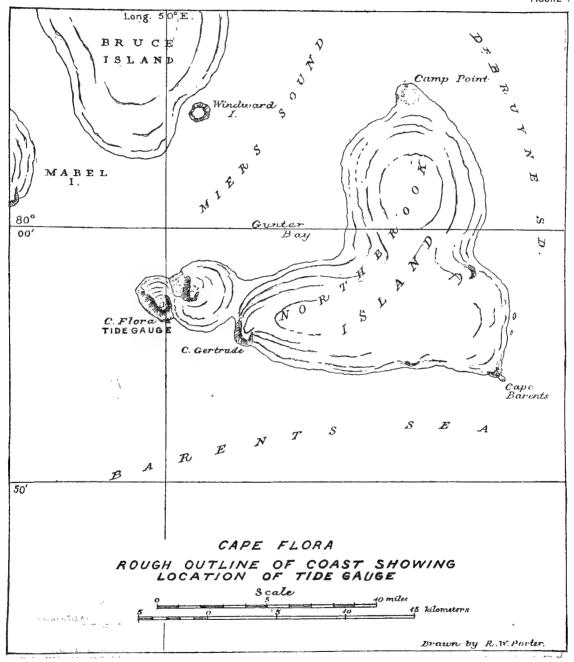
At Teplitz Bay two bench marks were established. Bench Mark I is on a boulder near the shore, and Bench Mark 2 is the top of the capstone of the astronomical brick pier. The latter is 50.99 feet above the former as determined by spirit levels on April 30, 1904. The relation of Bench Mark I to tide staff was not constant, as the frame of the gauge slowly sank into the ice, and was considerably tilted at the close of the observations. The following table shows the results of various levels between tide staff and Bench Mark I, only one station of the instrument being necessary.

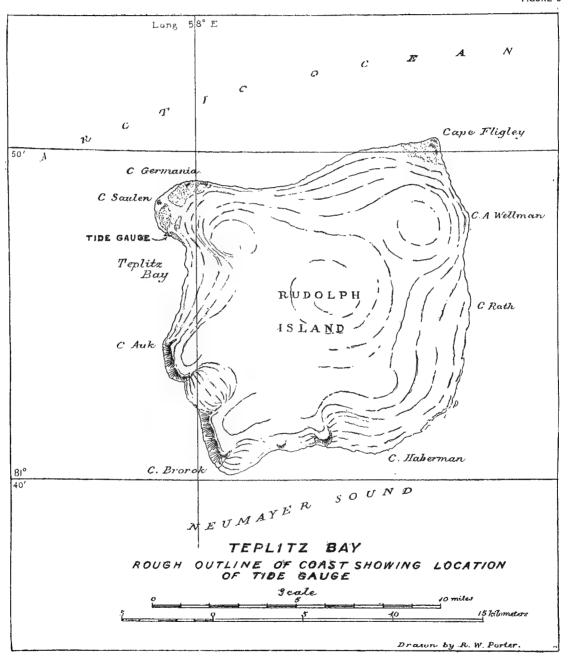
Date	Local time	Bench Mark I above zero of gauge	Date	Local time	Bench Mark I above zero of gauge
1904 April 2	h 12	<i>Ft</i> . 14.19	1904 April 30	h	Ft. 14.58
7	10	14.05	May 5	15	14.56
8	9.5	14.07	9	9	14.63
15	12	14.09	10		14.60
19	12	14.05	14	17.3	14.60
22	3	Gauge broke and reset	17	18	14.64
		and reser	23	13	14.67
Mean April	l 2 to 22	14.09	29	9	14.69
April 22	12	14.56	31	17.5	14.66
24	12	14.59	June 2	9.	14.68
26	12	14.59	4	0	14.70
28	17	14.58	Mean April 22 to June 4		14.62

The heights of the whole series were reduced so as to make the mean difference between the zero of the corrected staff and Bench Mark I correspond to 14.62 feet, which gives a mean sea-level reading of 4.133 feet on the corrected staff.

Elevation of bench marks above various tide planes

Station	Cape Flora Bench	Teplitz Bay			
Station	Mark	Bench Mark I	Beuch Mark 2		
Highest tide observed	Ft. 7.22	Ft. 9.31	Ft. 60.30		
Mean high water	8.08	9.90	60.89		
Mean sea level	8.57	10.49	61.48		
Mean low water	9.05	11.03	62.02		
Lowest tide observed	10.02	11.76	62.75		





#### RECORDS

The following are the original uncorrected readings of the tide gauges at Cape Flora and Teplitz Bay. The high and low water observations are denoted by the letters "H" and "L", respectively, and following the reading. A swell or light swell, if noted at observation, is denoted by an asterisk (\*) or dagger (†). At Cape Flora, no wind register being available, the anemometer dial readings in miles were recorded, as also the true direction; the anemometer dial read from zero to 990 miles. For the Teplitz Bay results the wind velocities and true directions are given. The times are local mean civil reckoning through twenty-four hours. The tide gauge at Cape Flora is in approximate north latitude 79° 57′ and longitude 49° 59′ (3h 19m 56s) east of Greenwich, while the gauge at Teplitz Bay is in north latitude 81° 47. 5 and longitude 57° 56′ (3h 51m 43s) east. The observations at Cape Flora were made by W. J. Peters, Francis Long, Charles E. Rilliet, Anton Vedoe, and J. E. Moulton. The observations at Teplitz Bay were made by Francis Long, Spencer W. Stewart, Robert R. Tafel, John Vedoe, and W. J. Peters. The various observers are noted in the tabulation of observations by their respective initials. The observer is noted only for the first and last observation of his watch.

### TIDAL OBSERVATIONS

## TABULATION OF TIDE GAUGE READINGS

RECORDED AT

CAPE FLORA STATION, NORTHBROOK ISLAND

FRANZ JOSEF ARCHIPELAGO

MAY 21, 1904, TO AUGUST 31, 1904

NORTH LATITUDE: 79° 57'

LONGITUDE EAST OF GREENWICH: 49° 59'

Tabulation of tidal observations at Cape Flora, Northbrook Island

	<del></del>	1				<del>,</del>			
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
	-	3.6	!		ii II	<u>'                                    </u>	3.4		<u> </u>
		May 21, 1	904				May 22, 1	904	
h m	Feet	75	Miles	***	h m	Feet	********	Miles	***
8 12 9 12	<b>5.53</b> 5.65	E	234	F. L.	15 37	6.63* <b>6.61*</b>	WNW W		F. L.
57 10 57	5.88	E NE			57	6.60*	W	634	
11 57	6.17 6.48	NE	272		16 57 17 57	6.40* 6.20	W W		
12 07 17	6.47* 6.46*	ENE ENE			18 57 19 57	6.00 5.80	W W	706	F. L.
27	6.53*	ENE			20 57	5.68	W	700	J. E. M.
37 47	6.59* 6.59*	ENE ENE			21 57 22 57	5.62L 5.72	W W		
57 13.07	6.59* 6.59*	ENE ENE			23 57	5.85	W	789	J. E. M.
57	6.70*H	NE			Brisk	to high ea	sterly to v	westerly wir	ıds all day.
14 27 57	6.68* 6.59*	NE NE					May 23, 1	1004	
I5 57	6.41*	NE	344		0 57	6.02	W .	.,,-,	J. E. M.
16 57 17 57	6. 10 5.97*	E E E			I 57	6. 18	NW		J. 24. 212.
18 57 19 57	5.84 5.69	E NE	380	F. L.	2 07 17	6.22 6.26	NW NW		
20 57	5.64	Ē	300	J. E. M.	27	6.28	NW NW		
21 07 17	5.64L 5.65	EHEEEEEEE E			37 47	6.30 6.31	NW		
27	5.65 5.69	Ë			57 3 07	6.32 6.33	NW NW		
37 47	5.73	Ē			17	6.33H	NW NW		
57 22 57	5. <i>7</i> 6 5.84	E E			27 37	6.33 <b>6.32</b>	NW		
23 57	6.02	ESE	411	J. E. M.	47 57	<b>6.31</b> 6.30	NW NW	86	
Fresh	to brisk as	nd high eas	sterly winds	all day.	4 57	6.14	W	00	
		3.5		_	5 57 6 57	5.99 5.86	NW NW		
		May 22, 1	1904		7 57 8 57	5.74 5.62	W NW	934	J. E. M. F. L.
o 57	6.20	ESE		J. E. M.	9 57	5.6oL	NW		A. 14.
1 57 2 07	6.29 6.30	ESE E			10 57 11 57	5.73 5.89	NW WNW	19	
17 27	6.30 6.32	E E			12 57	6.08	W SE		
37	6.32	EEEEEE			13 57 14 57	6.30 6.40_	SE	_	
47 57	6.32H 6.32	E E			16 02 57	6.42H 6.32	SW	82	
3 57	6.16 5.96	ENE	444		17 57	6.20	E E E		
4 57 5 57	5.78	NE NE			18 57 19 57	5.97 5.78		138	F. L.
5 57 6 57 7 57	5.65 5.49L,	NE E E	516		20 57 21 07	5·55 5·53	E		J. E. M.
8 57	5.55	Ē	510	J. E. M.	17	5.50	Ē		
9 57 10 57	5.70 5.95	SE SW		F. L.	27 37	5·49 5·47	E E		
11 57	6.20	$\mathbf{W}$ :	550	,	47	5.45	Ē		
12 57 13 57	6.45 <b>6.70</b>	W WNW			22 07 07	5.40 5.40	ененененененен		
14 07 17	<b>6.69*</b> 6.68*	WNW :		;	17 27	5.38 5.37	E E		
27	6.68*	W		•	37	5.36L	Ē		
37 47	6.68* 6.65*	W W			47 57	5·35 5·35	E E		
57	6 62*	W			23 57	5.45	Ē	186	J. E. M.
15 07 17	6.63* 6.71*H	W W			Brisk	to high no	rthwest sh	ifting to so	outheast and
27	6.67*	WNW		F. L.	j east	winds.		_	

Tabulation of tidal observations at Cape Flora, Northbrook Island

			•		<b>.</b>				
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		May 24,	1904				May 25, 19	04	
h m	Feet		Miles		h m	Feet		Miles	
0 57	5.60	E E		J. E. M.	11 57	5.33_	SE	540	F. L.
I 57	5.73	E		-	12 57	5.31L	SE		
2 57	5.91 6.05	SE SE	286		13 07 17	5·34 5.36	SE SE		
3 57 4 57	6.12H	E	200		27	5.40	ŠĒ		
5 57 6 57	б. 10	ENE			37	5.41	SE		
0 57	5·95 5· <i>7</i> 9	E NE	210	J. E. M.	47	5.46	яненененененененененененененененененене		
7 57 8 57	5.65	NE	319	F. L.	57 15 01	5.49 5.69	SE		
9 57	5.55	NE	335	•	57	5.89	SE	570	
10 57	5.54L	NE			16 57	6.00 6.06	SE		
II 07 I7	5.55 5.58	E			17 57 18 07	6. 10H	ŠĒ		
27	5.59	NEEEEE NEEEEE NNEENNEE			17	6.10	SE		
37	5.60	NE			27	6.06	SE		
47 57	5.60 5.62	NE.	361		37 47	6.02 6.00	SE		
12 57	5.70	NW SW	301		57	6.01	ŠĒ		
13 57	5.89	SW			19 07	6.00	SE	6	7) T
14 57 15 57	6.05 6.20	NW SW	398		20 57	5.85 5.60	WSW	603	F. L. J. E. M.
16 57	6.27	SW	390		21 57	5.35	WSW		J. 14. 141.
17 07	6.28H	SE			22 57	5.13	WSW	_	
17 27	6.27 6.24	SE SE			23 57	4.96	sw	641	J. E. M.
37	6.22	ESE					May 26, 19	904	
47	6.21	ESE			0 17	4.92	SW	•	J. E. M.
18 57	6.20 6.06	ESE ESE			27	4.92 4.91	św		J. 14. 1V1.
19 57	5.74	NE	437	F. L.	37	4.90	sw		
20 57	5.54	NE	107	J. E. M.	47	4.90 4.89	SW ESE		
21 57	5.30	NE			57 1 07	4.87L	ESE		
22 57 23 07	5.22 5.19	NNEEEEEEEEEEE			17	4.87	ESE		
17	5.15	NE			27	4.88 4.90	ESE ESE		
27	5.14	E			37 47	4.92	ESE		
37 47	5.12 5.11	Ë			57	4.96	ESE		
23 57	5.10	$\overrightarrow{\mathbf{E}}$	472	J. E. M.	2 57	5.10	SE	682	
		May 25,	1004		3 57 4 57	5.35 5.62	SE SE	062	
0.07	5.07L			J. E. M.	5 57 6 07	5.84 5.87	SE SE		
0 07 17	5.07	E E E		. ۲۷۱ بست ، ر	17	5.90	SE		
27	5.07 5.08	Ę			27	5.92	SE		
37	5.09	E E E E E E			37 47	5·95 5·99	SE		
47 57	5.10 5.11	Ē			57	6.01	SEE SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS		
I 57	5.20	Ĕ			7 07	6.02	SE		
2 57	5.41 5.60	E.	475		17 27	6.04 6.05	SE		
3 57 4 57	5.79	ESE	4/3		37	6.07	SE		
4 57 5 57 6 07	5.92	ESE			47	6.o8H	SE SE		
6 07	5.94H 5.94	ESE ESE			8 o7	6.08 <b>6.06</b>	SE SE	717	
17 27	5.94 5.94	ESE ESE ESE ESE			17	6.03	SE		LEM
37	5.93	ESE			57	5.97	SE		J. E. M. F. L.
47	5.92	ESE			10 02	5.79 5.62	SE		
57 7 57	5.89 5.79	SE	500	J. E. M.	57 11 57	5.50	SE SE	<b>7</b> 5	
57 7 57 8 57	5.63	SE	3	F. L.	12 57	5.48	SE SSE SSE SE	73	
9 57	5.49	ese ese ese se se		F. L.	13 57 14 07	5.46 <b>L</b> , 5.48	SE		73 *
10 57	5.39	SE,		r. L.	]] 14 0/	5.40	SE		F. L.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		May 26, 19	904				May 27, 19	04	
h m	Feet		Miles		h m	Feet		Miles	
14 17	5.51	SE		F. L.	16 57	5.96	SW		F. L.
27 37	5.56 5.60	SE			17 57 18 57	6.14 6.30	SW WSW		
47	5.62	SE			19 57	6.32H	WSW	115	F. L.
57	5.62 5.83	SE SE			20 57 21 07	6.31 6.29	SW SW		J. E. M.
15 57 16 57	6.02	SEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE	<i>7</i> 98		17	6.24	SW		
17 57 18 57	6.19 6.28	SE			27 22 07	6.19 6.00	ŝw		
19 37	6.30H	ESE			57	5.74	SSS		
47 57	6.28 6.25	ESE	850		23 57	5.46	S	120	J. E. M.
20 07	6.22	SEE ESSE ESSE ESSE ESSE ESSE ESSE ESSE	0,0						
17 2 <b>7</b>	6.21 6.19	ESE		F. L.			May 28, 1	904	
57	6. 10	ESE		J. E. M.	0 57	5.21	SE		J. E. M.
21 57 22 57	5.83 5.55	ESE ESE ESE ESE ESE			I 57	5.09	NE		J. 24, 2.21
23 57	5.33	ESE	814	J. E. M.	2 07 17	5.04 5.03	NE NE		• ,
		May 27, 1	1004		27	5.02	NE		
			-5-4		37 47	5.00 4.99Ľ,	NE NE		•
0 57	5.20	ESE ESE		J. E. M.	57	4.99	NE NE		
I 57 2 07	5. 12 5. 11	ESE			3 07 17	5.01 5.03	NE		
17	5. 10L	ESE			27 57	5.07 5.21	NE NE	139	
27 37	5.10 5.12	ESE ESE			4 57	5.50	E	139	
47	5.15	ESE			5 57	5.85 6.09	SE		•
57 3 57	5.19 5.43	ESE ESE ESE	974		4 57 5 57 6 57 7 57 8 57	6.39	SE	157	J.E.M.
4 57	5.74 6.05	ESE ENE		i	8 57 9 07	6.60 6.60	eeeeeee Soossoos		F. L.
5 57 6 57	6.24	ENE			17	6.54 6.61H	SE		,
7 27	6.37 6.39	ENE ENE			27 37	6.61H 6.54	SE SE		
37 47	6.40	ENE			47	6.59	SE		
57 8 o7	6.41 6.42	ENE ENE	5 <b>7</b>		57 10 07	6.60 6.55	SE SE		
17	6.43	ENE			17	6.52	SE SE		
27 37	6.44H 6.44	ENE ENE			27 37	6.51 6.50	SE SE		
47	6.43	ENE		J. E. M.	47	6.42	SE SE		
57 9 07	6.41 6.40	ENE S		ј. Е. М. F. L.	57 11 57	6.40 6.20	SE	196	
10 04	6.24	SSW			12 57 13 57	5.98 5.81	SE SE SE		
57 11 57	6.05 5.85	SSW SW	77		I 4 57	5.75	SE		
12 57	5.72	SW SW			15 07	5.74L	SE SE		
13 57 14 07	5.66 5.63	SW			27	5.78 6.61H	SE		
17	5.61 5.61	SW SW			37 47	6.54 5.83	SE ESE		
27 37	5.61	SW			57	5.88	ESE	241	(3)
47	5.61 5.60L	SW SW			16 57 17 57	6.03 6.22	ESE SE		
57 15 07	5.65	SW			18 57	6.42	SE		
17	5. <i>7</i> 0	SW SW			19 57 20 57	6.60 6.70H	SE ESE	295	F. L.
27 37	5.70 5.71	sw			21 57	6.55	ESE		J. E. M.
47	5.79 5.80	SW SW	97	F. L.	22 57 23 57	6.26 5.90	se se	354	J. E. M.
57	5.00	P) 44	21	_ · —,·	, 00,07	U )-		0.57	g - mar 2724

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemometer records	Observer	Local mean time	Reading of tide staff	Wind direction	Anémom- eter records	Observer
		Man. 20. 7		`		1	Mar. 20. 70		
		May 29, 1					May 30, 19	-	
h m	Feet		Miles	T TO M	h m	Feet	117	Miles	T TE' TAT
O 57 I 57	5.61 5.40	s sw		J. E. M.	8 57 9 57	6.53 6.70	W WNW		J. E. M. F. L.
2 27	5.32	SW			10 07	6.74	WNW		
37 47	5.30 5.27	sw sw			17 27	6. <i>7</i> 9 6.80	WNW W		
57	5.25L,	sw			37	6.79	w		
3 07 17	5.25 5.26	SW SW			47 57	6.8o 6.8oH	W W		
27	5.28	SW			11 07	6.8o	w		
37 47	5.30 5.34	sw sw			17 27	6.79 6.73	W W		
5 <b>7</b>	5.36	sw	386		12 02	6.63	w	667	
4 57 5 57	5.48 5.00	SW NW			57 13 57	6.40 6.15	W		
5 57 6 57	5.90 6.18	W		J. E. M.	14 57	5.89	w		:
7 57 <b>8</b> 57	6.50 6.70	W W	399	F. L.	15 57 16 57	5.71 5.69	W		
9 57	6.8oH	W			17 07	5.68L	$\mathbf{w}$		
10 07 17	6.80 6.77	$\mathbf{w}$			17 57	5.71 5. <b>8</b> 0	W W		
57	6.69	W	414		18 57	5.94	W	770	F. L.
11 57 12 57	6.44 6.20	W W	414		19 57 20 57	6.11 6.30	W W	779	J. E. M.
14 00	5.9 <b>8</b> 5.81	W W			22 07	6.42	W W		
57 15 57	5.8oL	w	440		17 27	6.46 6.48H	w		
16 07	5.81 5.83	W W			37	6.48 6.46	W W		
17 58	5.03 5.90	w			47 57	6.44	w		
17 57 18 57	6.04 6.29	$_{ m w}^{ m w}$			23 07 57	6.42 6.20	W W	820	J. E. M.
19 57	6.48	w	472	F. L.	57	0.20			j. 14. 111.
20 57 21 27	6.57 6.60	NW NW		J. E. M.			May 31, 1	904	
37	6.61	NW			O 57	5·94 5·55	W W		J. E. M.
47 57	6.62H 6.62	NW ,			2 57	5. 19	WNW		
22 07	6.61	NW			3 57 4 07	5.12 5.10	WNW NW	863	
17 27	6.60 6.57	NW NW			17	5.09	NW		
57	6.50 6.12	NW	524	J. E. M.	27 37	5.09 5.07L	NW NW		
23 57	0.12	_		J. 14. 111.	47	5.07 5.08	NW NW		
		May 30, 1	1904		57 5 07	5.10	NW		•
O 57 I 57	5.70 5.50	NW NW		J. E. M.	17 57	5.12 5.21	NW NW		
2 57	5.29	NW			6 57	5.55	WNW	_	
3 07 17	5.28 5.24	NW NW			7 57 8 57	5.90 6.30	WNW W	890	J. E. M. F. L.
27	5.20	NW ·			9 57	6.62	W		1. 14.
37 47	5.20 5.20	NW NW			10 57 11 07	6.77 6.78	$_{ m W}^{ m W}$		
5 <b>7</b>	5.20	NW	563		17	6.79	W		
4 07 17	5.18 5.17L	NW NW		•	27 37	6.81H 6.80	W W		
27	5.18	NW NW			47	6.76 6.74	W		
37 47	5.20 5.20	NW			57 12 57	6.60	W	905	
57	5.23 5.51	NW NW			13 57 14 57	6.30 6.01	W		
5 57 6 57	5.83	NW 🖘			15 57	5.81	w	932	
7 57	6.19	NW 5	; 610	J. E. M.	16 57	5.66	W	<del>-</del>	F. L.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		May 31, 19	004			•	June 2, 19	904	
h m 17 27 37	Fect 5.62 5.60L	W W	Miles	F. L.	h m 0 07 17	Feet 6.40 6.39	E E	Miles	J. E. M.
47 57 18 57 19 57 20 57 21 57 22 57 23 07 17	5.62 5.69 5.76 6.00 6.19 6.35 6.43 6.43 6.43H	W W W W W W	936	F. L. J. E. M.	27 57 1 57 2 57 3 57 4 57 5 47 6 07	6.35 6.24 6.08 5.70 5.49 5.37 5.30 5.29L 5.30	EEEELNININI EEEEELNINININI EEEEEEEEE	234	
27 37 47 57	6.42 6.40 6.37 6.33	W W W NW	953	J. E. M.	17 27 37 57 7 57 8 57 9 57	5.32 5.36 5.37 5.41 5.63 5.98 6.30	ENE ENE ENE E	304	J. E. M. F. L.
		June 1, 1	904		10 57 11 57 12 37	6.60 6.70 6.79	E E		
0 57 1 57 2 57 3 57 4 57 5 07 17 27	6. 14 5.80 5.44 5.25 5.15 5.13 5.13L	NE NE NE NE NE NE	963	J. E. M.	13 07 13 07 14 07 15 57 16 57 17 57	6.76 6.80 6.80H 6.75 6.61 6.40 6.14 5.92 5.81	eeeeeeeeeeeeeee Sooooo	442	
37 47 57 6 07 57 7 57 8 57	5. 15 5. 13 5. 16 5. 20 5. 38 5. 70 6. 04	NE NE NE NE ENE ENE ENE	977	J. E. M. F. L.	18 37 47 57 19 07 21 07	5.72L, 5.73 5.78 5.81 5.95 6.12	SE SE ESE ESE	525	F. L. J. E. M.
9 57 10 57 11 57	6.40 6.68 6.72	E E			22 57 23 57	6.30 6.39	ESE ESE	591	J. E. M.
12 07 17	6.73 6.79H 6.76	E E					June 3, 1	904	
27 37 47 57 14 01 57 15 57	6.70 6.69 6.66 6.42 6.10	E E E E E E E E E	27 50		0 07 17 27 37 47 57	6.40 6.41 6.44H 6.42 6.38	ESE ESE ESE ESE E		J. E. M.
16 57 17 57 18 07 17 27 37 47 57	5.90 5.69 5.63 5.60 5.60 5.60 5.60 5.63 5.63	EHEHHHHHHHHHHZSCHHHHHHHHHHHHHHHHHHHHHHHH	102	F. L. J. E. M.	1 57 2 57 3 57 4 57 5 57 6 07 17 27 37	6.20 5.98 5.71 5.59 5.42 5.40 5.39 5.39 5.39L 5.40	EEE SOOSHEEEEEEEEEEEEEEEE EEE	672	
20 57 21 57 22 57 23 47	6.00 6.16 6.32 6.40 6.40H	eeee Eeee	168	J. E. M.	57 7 07 57 8 57	5.42 5.44 5.53 5.78	E E E E	749	J. E. M. F. L.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observe
		June 3, 1	904				June 4, 190	)4	
h m 9 57 11 00 57 12 57 13 07 17 27 37 47 47 57 14 57 16 57	Feet 6.03 6.32 6.56 6.67 6.64 6.64 6.64 6.63 6.60 6.42 6.20 5.96 5.81	EEEEEEESSEESEE SOSSSSSSSSSSEESE EEEEEESSSSEESE	Miles 809	F. L.	h m  14 07 17 57 15 57 16 57 17 57 18 57 19 27 47 20 07	Feet 6.54 6.52 6.41 6.27 6.02 5.88 5.70 5.65 5.64 5.60 5.60 5.60	EEEEEEEEEEENNN NNN	Miles 31 52	F., L.
17 57 18 57 19 07 17 27 57 20 57 21 57 22 57 23 57	5.69 5.65L 5.68 5.69 5.70 5.73 5.93 6.05 6.19	E ESE E NE NE ENE E E E	933	F. L. J. E. M. J. E. M.	27 37 47 57 21 07 17 57 22 57 23 57	5.60L 5.60 5.60 5.60 5.60 5.63 5.65 5.80	NE NE NE NE NE ENE ENE ENE THE NW	71 904	F. L. J. E. M J. E. M
0 17 27 37 47 57 1 07 17 27 37 45 57 57 47 57 47 57 47 57 10 57 10 57 10 57 11 57 13 07 17 237 237 237 237 237 237 237 237 237 23	6.221 6.223 6.225 6.225 6.22200 6.22200 6.22200 6.22200 6.22200 6.22200 6.22200 6.22200 6.22200 6.22200 6.22200 6.22200 6.22200 6.2200 6.2200 6.2200 6.2200 6.2200 6.2200 6.2200 6.2200 6.2200 6.2200 6.2200 6.2200 6.2200	June EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE	954	J. E. M. F. L.	0 57 1 07 1 27 37 457 2 57 3 57 4 57 5 57 7 07 17 27 37 4 57 7 07 17 27 37 47 57 10 57 11	6.09 6.10 6.10 6.10 6.05 5.97 5.86 5.50 5.50 5.50 5.50 5.44 5.47 5.70 6.30 6.40 6.41 6.41 6.41 6.41 6.41 6.31 6.94	EEEEEEENNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN	97 127 173	J. E. M. F. L.
37 47 57	6.52 6.52 6.54H	E E E	. •	F. L.	17 57 18 57 19 57	5.94 5.75 5.63	NE NE	298	F. L.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		June 5, 190	04		1		June 6, 190	94	
h m 20 07 17 27 37 47 57 21 07	Fcet 5.61 5.60 5.60 5.58 5.55 5.58 5.52	NEE NNEE NNINN NNEE E	Miles	F. L.	h m 12 00 13 00 14 00 15 00 10 20 30	Feet 5.90 6.07 6.25 6.30 6.30 6.30 6.32H	SEE SSEE SSEE SSEE SSE	Miles 466	F. L.
17 27 37 47 21 57 22 07 17 27 37 47	5.52 5.52 5.52 5.52 5.51 5.51 5.50L 5.54 5.59 5.60	EEEEEEEEEEEEEEEEEEEEEEEEE		F. L. J. E. M.	40 50 16 00 17 00 18 00 19 00 20 00 21 00 22 00	6.30 6.29 6.25 6.06 5.95 5.73 5.59 5.50 5.39 5.39L	SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	518 560 ·	F. L. J. E. M.
57 23 57	5.61 5.72	E E June 6, 1	353 .	J. E. M.	20. 30 40 50	5.39 5.40 5.41 5.42	ESE ESE ESE ESE		
I 00	5.89	ENE	<b>904</b>	J. E. M.	23 00 24 00	5·45 5·50	ESE SE	612	J. E. M.
30 40 50	5.93 5.93 5.94	ENE ENE ENE					June 7, 1	904	
2 00 10 20 30 40 50 3 00 10 20 30 40	5.96 5.99 6.00H 6.00H 6.00H 5.95H 5.97H 6.00H 6.00H 6.00H	EEEEEEEEEE KKKKKKKKKKKK KEEEEEEEEEEE			1 00 2 00 3 00 4 00 10 20 30 40 50 5 00	5.60 5.69 5.80 5.81H 5.81H 5.81H 5.81H 5.81H 5.77 5.68	EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE	65 <sub>0</sub>	J. E. M.
50 4 00 10 20 5 00 6 00 7 00 30 40	5.92 5.93 5.90 5.84 5.70 5.60 5.55 5.52	E EEEEEE EEEEEEE	391		7 00 8 00 9 00 10 20 30 40 50 10 00	5.55 5.49 5.40 5.39 5.40 5.40 5.38 5.34L	SE SSE SSE SSE SSE	69 <b>7</b> :	J. E. M. F. L.
50 8 00 10 20 30 40	5.49L, 5.50 5.50 5.50 5.50 5.50	ESE ESSE ESSE ESE	415		10 20 11 05 12 00 13 00 14 00 15 00	5.40 5.43 5.47 5.60 5.70 5.86 5.96	ооооооооооооооооооооооооооооооооооооо	726	
50 9 00 10 20 30 40 50	5.50 5.50 5.50 5.50 5.50 5.50	EEEEEEEEEEEEEEEE		,	50 16 00 10 20 30 40 50	6.04 6.05H 6.01 6.01 6.01 5.99 6.00	SE SE	740	,
11 00 Î0 10 00	5.52 5.59 5.70	ESE SE		J. E. M. F. L.	17 00	6.00 6.00	SE SE		F. L.

Tabulation of tidal observations at Cape Flora, Northbrook Island

					· · · · · · · · · · · · · · · · · · ·				
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observe <b>r</b>
		_							
		June 7, 19	04			•	June 8, 190	4	
h m	Feet		Miles		h m	Feet		Miles	
17 20	5.99	SE	2.2	F. L.	21 00	5.57	\$W		J. E. M.
30	5.04	SE SE			22 00	5.40	ŝw		,,, -4,,
18 00	5.85	SE			23 00	5.30	SW		
19 00 20 00	5.68 5.51	SE SE	748		10 20	5.27 5.25	SW SW		
21 00	5.39	SE	740	F. L.	30	5.23 5.24	ŝw		
22 00	5.22	SE		J. E. M.	40	5.23	SW		
10	5.21	SE SE			50	5.20	SW SW	896	J. E. M.
20 30	5.2I 5.20	SE			24 00	5.20L	OW	890	J. E. W.
50	5.17	SE SE					June 9, 1	004	
23 00	5.15L	SE					June 9, 1	904	
10 20	5.15 5.20	SE SE			0 10	5.20	sw		J. E. M.
24 00	5.23	SE	735	J. E. M.	20	5.20	SW		
	00			•	30 40	5.23 5.23	SW SW		
		June 8,	1904		50	5.23	šw		
I 00	5.30	w		J. E. M.	1 00	5.25	sw		
2 00	5.39	W			2 00	5.38	SW SW		
3 00	5.54 5.66	W NW	782		3 00	5 · 55 5 · <b>75</b>	św	934	
4 00 10	5.69	NW	702		5 00 6 00	5.90	sw	204	
20	5.70	NW				5.96	SW		
30	5.71	NW			10 20	6.00 6.00	SW SW		
40 50	5·73 5·73	NW NW			30	5.99	sw		
5 00	5·73	W			40	6.00H	SW		
10	5·75	W			7 00	6.00 5 <b>.99</b>	SW SW		
20 30	5·75 5·75 <b>H</b>	W W			10	5.99 5.97	šŵ		
40	5.75	ŵ			8 00	5.90	sw	973	J. E. M. F. L.
50	5.75	w			9 00	5.84	SW SW		F. L.
6 00	5.73 5.63 5.58	W W			10 00	5.80 5.72*	sw		
7 00 8 00	5.03 5.58	w	795	J. E. M.	10	5.72*	sw		
9 00	5.46	W	.,,	F. L.	20	5.71*	SW		
10 00	5.42	W			30 40	5.70* 5.72*	SW SW		
10 20	5.41 5.41	W W			50	5.70*	sw		4
30	5.42	W			12 00	5.70*	SW	27	
40	5.41_	W			10	5. <b>69*</b> 5.64 <b>L</b> *	SW SW		
50 11 00	5.40L 5.41	W W			20 30	5.64 <b>*</b>	sw		
10 00	5.41	ŵ			40	5.70*	SW		
20	5.46	W			50	5.72*	SW SW		
30	5.46	f w			13 00	5·73* 5.90	SW		
40 50	5.49 5.50	SW			15 00	6.00	sw		
12 00	5.50	sw	813		16 00	6.11*	W SW	72	
13 00	5.61	SW SW			17 00 50	6.22 6.22	sw		
14 00 15 00	5· <b>7</b> 3 5.90	W			18 00	6.23	sw		
16 00	6.01	sw	838		10	6.26	SW SW		
50	6. 10H	SW			20 30	6.27 6.28H	SW		
17 00 10	6.04 6.04	WSW WSW			40	6.27	sw sw		
20	6.05	SW			50	6.20	SW		
30	6.01	SW SW			19 00	6.20 6.19	ŠW SW		
40 50	б.04 б.от	SW SW			20 01	6.19	W	114	
18 00	6.00	SW			21 00	5.90	W.	•	F. L. J. E. M. J. E. M.
19 00	5.89	SW	0	F. L.	22 00	5.67	SW SW		J. E. M. I F M
20 00	5.70	SW	871	r. L.	23 00	5.52	D 11		J. 12, 1VI.

Tabulation of tidal observations at Cape Flora, Northbrook Island

		1	1	1	11		1	1	
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observe <b>r</b>
		T		,			T		
		June 10,	1904				June 11, 19	904	
h m	Feet		Miles		h m	Feet		Miles	
0 10	5·47 5·36L	W W	140	J. E. M.	2 00	5.30L	E		J. E. M.
I 00 2 00	5.42	W			10 20	5.32 5.36	E E E		
3 00	5.51	W	-0-		3 00	5.44	E		
4 00 5 00	5.81 6.03	W W	180		4 00	5.60 5.89	ESE ESE	294	
6 00	6.15	sw			5 00 6 00	6.19	ESE		
10 20	6.20 6.22	SW SW			7 00	6.39 6.46	ESE ESE		
30	6.23	SW			30 40	6.46	ESE		
40	6.24	SW SW			50	6.50	ESE	6	
50 7 00	6.26 6.30	NW			8 00	6.51 6.52H	ESE ESE	336	
10	6.30	NW NW			20	6.52H	ESE		
20 30	6.31 6.31	NW			30	6.49H 6.49H	ESE ESE		
40	6.30	NW			50	6.52H	ESE		
50 8 00	6.33H 6.33	NW NW	213		9 00	6.49 6.47	ESE ESE		J. E. M.
10	6.30	NW	5		10 00	6.39	SE		F. L.
9 00 10 <b>00</b>	6.22 6.11	NW NE		J. E. M. F. L.	II 00 I2 00	6. <b>22</b> 6.14	SE SE	367	
11 06	6.00	E			13 00	6.00	SE	307	
12 00	5.91	E F	234		14 00	5.92L	SE SE		
13 00 10	5.88 5.83	Ē,			10 20	5.92 5.94	SE		
20	5.90	E			30	5.98	SE		
30 40	5.90 5.87	Ë			40 50	5.99 5.97	SE SE		
50	5.89	<b>ненененененене</b> ХХ			15 00	6.00	SE		
14 00 10	5.84L 5.90	Ë			16 00	6.10 6.24	ESE ESE	402	
20	5.90	E			18 00	6.39	E		
30 40	5.91 5.93	E			19 00	6.49 6.4 <b>9</b> H	民民		
50	5.94	E			40	6.49	ненененены		
15 00	5.99	NE NE	251		20 00	6.45 6.42	丘	452	
16 00 17 00	6.11 <b>6.23</b>	N W	201		10	6.44	Ĕ	454	
18 00	6.31	W W			20	6.42	Ę		F. L.
50 19 00	6.32 6.35H	W			2I 00 22 00	6.34 6.12	Ĕ		J. E. M.
10	6.33	W W			23 00	5.88	Ë	.6.	
20 30	6.32 6.31	w			24 00	5.63	E,	465	J. É. M.
40	6.30	W	-6-				June 12,	1904	
20 00 10	6.30 6.23	W W	260		T 00	2 42	Calm		J. E. M.
21 00	6.14	W W		T) T	I 00	5 · <b>45</b> 5 · <b>43</b>	Calm		J. 14. 191.
22 00	5.89 5.68	NE E		F. L. J. E. M.	20	5.40	Calm		
23 00 24 00	5.00 5.49	E E	274	J. E. M.	30 40	5 · 39 5 · 34	Calm Calm		
	- **	June 11,	T004		50 2 00	5·34 5·34	Calm Calm		
			1904		10	5.33	Calm		
0 50	5.36	E		J. E. M.	20	5.32 5.32	Calm Calm		
1 00 10	5.36 5.33	Ë			30 40	5.31L	Calm		
20	5.33	Ę			50	5.31	Calm Calm		
30 40	5 ⋅ 33 5 ⋅ <b>3</b> 3	EEEEEEE			3 00	5 · 33 5 · 35	Calm		
50	5.32	Ē		J. E. M.	20	5.37	Calm		J. E. M.

Tabulation of tidal observations at Cape Flora, Northbrook Island

	,				1		1		
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		June 12, 19	00.4				June 13, 19		
,		June 12, 1			,		itule 13, 19	•	
1: ni 4:00	Feet 5.50	Calm	Miles 465	J. E. M.	h m	Feet 5. <b>27</b> L	T.º	Miles	I E' M
5 00 6 00	5.73	Calm	403	J. 14. 141.	3 00 10	5.25L	EEEEEEE		J. E. M.
	6.05	Calm Calm			20	5.23L	Ë		
7 00 8 00	6.35 6.50	Calm			30 40	5.30 5.30	E E		
10	6.52	Calm Calm	465		50	5.32	Ē		
20 30	6.57 6.59	Calm			4 00 5 00	5 · 35 5 · 57	E E	515	•
40	6.59	Calm Calm			5 00	5.57 5.86	E		
50 9 00	6.56 6.60H	Calm			7 00 8 00	6.21 6.50	ENE ENE	552	
10	6.55 6.60	Calm Calm			10	6.56	ENE		
20 30	6.58	Calm		J. E. M.	20 30	6.59 6.64	ENE ENE		
40	6.52	Calm Calm		F. L.	40	6.64	ENE		
10 00 11 00	6.52 6.38	Calm			9 00	6.69 6.74H	ENE ENE		J. E. M.
12 03	6.20	E¹ SW	468		10	6.70H	NE		F. L.
13 00 14 00	6.05 5.90	SW			20 30	6.70H 6.74H	NÉ NÉ		
10	5.89	SW SW			40,	6.73	NE		
20 30	5.84 5.84	SW			50 10 00	6.73 6.70	NE NE		
40	5.83	SW SW			11 00	6.62	ENE		1
50 15 00	5.83 5.82	SW			12 00 13 00	6.42 6.24	E ENE	614	
10	5.82L	SW SW			14 00	6.10*	ENE		
20 30	5.82 5.89	SW			15 00 40	6.02* 5.95L*	ENE ENE		
40	5.90	SW SW			16 00	5.99*	ENE	699	
50 16 00	5.90 5.92	sw	483		10 20	6.02* 6.05*	ENE ENE		
17 00	6. 10	Calm Calm			30	6.07*	ENE		
18 00	6.23 6.40	Calm		ĺ	40 50	6.11* 6.13*	ENE ENE		
20 00	6.41	Calm Calm	492	1	17 00	6.13*	ENE		
10 20	6.44H 6.44H	Calm			18 00	6.35* 6.51 <b>*</b>	ENE ENE		
30	6.44H	SW <sup>2</sup> SW <sup>2</sup>			20 00	6.63*	ENE	798	
40 50	6.44H 6.41H	$SW^2$			2I 00 22 00	6.71H* 6.70	ENE ENE		F. L.
2I 00	6.42H 6.44H	SW <sup>2</sup> SW <sup>2</sup>			23 00	6.40	ENE		J. E. M. J. E. M.
10 20	6.41	SW <sup>2</sup>			24 00	6.10	ENE	917	J. E. M.
30	6.40	SW ENE		F. L. J. E. M.			June 14, 1	1904	
22 00 23 00	6.28 5.97	ENE			1 00	5.85	ENE		J. E. M.
24 00	5.70	ENE	500	J. E. M.	2 00	5.60	ENE		J
¹Very					3 00 4 00	5.50L 5.50	ENE ENE	22	
Light.	, for all d	ay and nig	·h+		5 00	5.64	ENE		
Dense	: 10g an u	ay and mg	,111.		6 00	5.83 6.23	ENE NE		
		June 13,	1904		7 00 8 00	6.55	NE	97	J. E. M.
1 00	5.48	ENE		J. E. M.	9 00	6.90 6.94*	NE NE		F. L.
2 00	$5 \cdot 3^{2}$	ENE			20	6.95*	NE	5.1	
10 20	5.28 5.23L	ENE ENE			30 40	7.01H* 7.01*	NE NE		
30	5.23L	ENE			50	7.00*	NE		
40 50	5.30L 5.27L	ENE ENE		J. E. M.	IO 00	7.00 6.93	NE NE		F. L.
-	-								•

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		June 14, 19	904				June 15, 19	104	
h m	Feet		Miles		h m	Feet		Miles	
I2 00 I3 00	6.80 6.54	NE NE	173	F. L.	18 00	6.01 6.17	NW NW		F. L.
14 00	6.34	NE			20 00	6.30	NW	652	F. L.
15 00 16 00	6.24 6.08	NE NE	240		2I 00 22 00	6.47 6.63	NW NW		
20 30	6.04L 6.04	NE NE	·		10 20	6.63 6.63	NW NW		
40	6.14	NE			30	6.63	NW		
50 17 00	6.15 6.20	NE NE			40 50	6.68H 6.68	NW NW		
18 00 19 05	6.34 6.55	NE NE			23 00 IO	6.64 6.59	NW NW		F. L.
20 00	6.65	WNW	287	F. L.	24 00	6.47	NW	731	J. E. M.
2I 00 22 00	6.8oH 6.8o	NE NE		J. E. M.			June 16,	T004	
10 20	6. <i>77</i> 6. <i>7</i> 5	NE NE				. 0		1904	
30	6.72	NE NE			I 00 2 00	6.18 5.80	NW NW		J. E. M.
40 50	6.71 6.70	NE NE			3 00 4 00	5.60 5.35	NW NW	830	
23 00 24 00	6.68 6.43	NE NW	330	J. E. M.	30	5.32	NW	0,0	
				•	40 50	5.32 5.30	NW NW		
		June 15,	1904		5 00	5.27 5.24	NW NW		
I 00	6.12	NE		J. E. M.	20	5.24L	NW NW		
2 00	5.83 5.63	NE NE			30 40	5.24 5.30	NW		
40 50	5.52 5.51	NE NE NE NE			6 00	5.30 5.33	NW NW		
4 00	5.50	NE	370		7 00	5.60 5.91	NW NW	923	J. E. M.
10 20	5.50 5.48L	NE NE			9 00	6.30	NW	923	F. L.
30 40	5.48 5.50	NE NE			10 00	6.60 6.80	NW NW		
50	5.52	NE NE NE NE	•		50 12 00	6.90H 6.8 <b>9*</b>	NW NW	30	
5 00 6 00	5 · 55 5 · <b>7</b> 5	: NE			10	6.89*	NW NW	30	
7 00 8 00	6.10 6.35	SW SW	422	J. E. M.	20 30	6.83* 6.82	WNW		
9 00	6.69	SW SW	-7	F. L.	40 50	6.80* 6.75	WNW WNW		
40 50	6.83 6.90	SW			13 00	6.70	WNW WNW		
10 00 10	6.94 6.95	WSW W			14 00	6.43 6.15	WNW		
20	6.94	NW NW			16 00 17 00	5.94 5.81	WNW NW	120	
30 40	6.97 7.00	NW			10	5.74	NW NW		
50 11 00	7.01H 7.00	NW NW			30	5·73 5.71	NW		
10	6.97	NW NW	400		40 50	5.71 5.71	NW NW		
12 00 13 00	6.88 6.68	NW	490		18 00	5.70L	NW NW		
14 00 15 00	6.39 6.17	NW NW			10 20	5·73 5·74	NW		
16 00	6.00	NW NW	567		30 40	5.75 5.80	NW NW		
40 50	5.96 5.94 <u>L</u> ,	NW			50	5.80	NW NW		
17 00	5.94L 5.99L	NW NW			19 00 20 00	5.80 6.00	W	192	F. L.
10 20	. 5.94L	NW			2I 00 22 00	6.20 6.45	W W		J. E. M
30 40	5.94L 6.00	NW NW		<b></b>	23 00	6.55	W		T T4 % C
50	6.00	NW		F. L.	24 00	6.56	NW	237	J. E. M

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean of tide time   Reading of tide staff   Wind of tide time   Reading of tide time   Local of tide time   Reading of time   Reading of time   Re										
h m   Feet	mean	of tide		eter	Observer	mean	of tide		eter	Observer
0 10 6 6.7H NW J.E.M. 6 30 5.38 E J.E.M. 20 6.57 NW 40 5.41 E 50 5.44 E 50 5		-	June 17,	1904			j	lune 18, 19	04	·
0 10 6 6.7H NW J.E.M. 6 30 5.38 E J.E.M. 20 6.57 NW 40 5.41 E 50 5.44 E 50 5	l	Fact		Milan		l	Foot		Milas	
1 00   6.40   NW   20   5.50   SE   485   J.E.M.     2 00   6.12   NW   285   11 08   6.23   SE     3 00   5.76   NW   285   12 00   6.75   E     5 00   5.39   NW   285   12 00   6.75   E     5 00   5.39   NW   285   12 00   6.75   E     5 00   5.39   NW   285   12 00   6.75   E     5 00   5.30   NW   285   12 00   6.75   E     5 00   5.30   NW   285   12 00   6.82   E     5 00   5.31   NW   30   J.E.M.   30   6.82   E     5 00   6.84   E   5.55   8.82   E     7 00   5.36   NW   319   J.E.M.   30   6.82   E     10   10   6.80   W   348   17 00   6.74   E     10   10   6.80   W   348   17 00   6.74   E     10   6.93   W   348   17 00   5.50   SE     10   6.93   W   348   17 00   5.55   SE     10   6.92   W   376   17 00   5.56   SE     10   6.75   SE   50   5.54   SE     10   6.75   SE   50   5.54   SE     10   6.75   SE   50   5.55   SE     10   6.75   SE   50   5.55   SE     10   6.75   SE   50   5.55   SE     10   6.75   SE   50   5.54   SE     10   6.75   SE   50   5.55   SE     10   6.75   SE   50   5.55   SE     10   10   10   10   10   10     10   10			NIW.	wites.	I E M	11		E)	111 1163	I IF M
1 00   6.40   NW   285   1.6 M   10 00   6.20   SE					J. 14. 191.	)  ~		Ē		J. 14. 141.
1 00   6.40   NW   285   1.6 M   10 00   6.20   SE		6.52	NW			50	5.38	E		
1 00 6.40 NW								SE	40-	T TC M
12 00 6 .93						III .		SE	405	F. L.
12 00 6 .93		6.12	NW			10 00	6.20	SE		
12 00 6 .93	_			-0		11	6.55	Ę		
12 00 6 .93				285		LI	0.75 6.78	E	555	
12 00 6 .93	6 00					11	6.80	Ē		
12 00 6 .93	10							E		
12 00 6 .93						11	0.82 6.84	E		
12 00 6 .93	-		NW					Ē		
12 00 6 .93	50	5.32	NW			10	6.87	E		
12 00 6 .93	7 00		NW	210	t E, W	II .		E F		
12 00 6 .93				319	F. L.			Ë		
12 00 6 .93		6.44	W		,-	15 00	6.49	E		
30 6.91 W 40 6.92 W 50 6.90 W 13 00 6.84 W 14 00 6.70 W 15 00 6.33 W 16 00 6.08 WNW 376 17 00 5.80 NW 18 00 5.68 NW 10 5.50L SE 17 00 5.69L NW 10 5.69L NW 10 5.69L NW 20 5.60L Calm 20 5.60L Calm 40 5.60L Calm 50 6.56 SE 398 J.E.M.  June 18, 1904  0 10 6.21 SE J.E.M.  0 10 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 30 6.58H SE 30 6.58H SE 30 6.58H SE 30 6.581 SE			W	2.40				SE	627	
30 6.91 W 40 6.92 W 50 6.90 W 13 00 6.84 W 14 00 6.70 W 15 00 6.33 W 16 00 6.08 WNW 376 17 00 5.80 NW 18 00 5.68 NW 10 5.50L SE 17 00 5.69L NW 10 5.69L NW 10 5.69L NW 20 5.60L Calm 20 5.60L Calm 40 5.60L Calm 50 6.56 SE 398 J.E.M.  June 18, 1904  0 10 6.21 SE J.E.M.  0 10 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 30 6.58H SE 30 6.58H SE 30 6.58H SE 30 6.581 SE				340				SE		
30 6.91 W 40 6.92 W 50 6.90 W 13 00 6.84 W 14 00 6.70 W 15 00 6.33 W 16 00 6.08 WNW 376 17 00 5.80 NW 18 00 5.68 NW 10 5.50L SE 17 00 5.69L NW 10 5.69L NW 10 5.69L NW 20 5.60L Calm 20 5.60L Calm 40 5.60L Calm 50 6.56 SE 398 J.E.M.  June 18, 1904  0 10 6.21 SE J.E.M.  0 10 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 30 6.58H SE 30 6.58H SE 30 6.58H SE 30 6.581 SE			W			11		SE		
50 6.90 W 13 00 6.84 W 40 6.70 W 15 00 6.33 W 17 00 5.80 NW 18 00 5.68 NW 18 00 5.68 NW 10 5.60L, Calm 20 5.60L, Calm 30 5.61L, Calm 40 5.60L, Calm 10 5.56 K 20 6.20 SE 21 00 5.54 Calm 10 5.55 SE 22 00 6.20 SE 23 00 6.30 SE 24 00 6.36 SE 24 00 6.36 SE 25 06.30 SE 26 06.30 SE 27 10 5.06 SE 28 06.30 SE 29 06.31 SE 29 06.32 SE 30 5.52L, SE 30 5.50L, SE 40 6.64 SE 30 6.62 SE 30 6.24 SE 30 6.20 SE 30 6.30 SE 30 6.33 SE 30 6.33 SE 30 6.33 SE 30 6.33 SE 30 6.33 SE 30 6.33 SE 30 6.33 SE 30 6.33 SE 30 6.33 SE 30 6.33 SE 30 6.33 SE 30 6.35 S								SE		
13 00 6 84 W 14 00 6.70 W 15 00 6.33 W 16 00 6.08 WNW 376 17 00 5.80 NW 50 5.70 NW 18 00 5.68 NW 20 5.50L SE 10 5.53 SE 10 5.50L SE 20 00 5.53 SE 10 5.53 SE 10 5.53 SE 10 5.53 SE 10 5.54 F. L. 22 00 5.85 SE 30 6.05 SE 30 6.05 SE 30 6.21 NW 20 00 5.70 WNW 387 F. L. 21 00 5.04 SE 22 00 6.21 NW 22 00 6.21 NW 23 00 6.40 SE 24 00 6.56 SE 398 J. E. M.  10 6.56 SE 398 J. E. M.  10 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.33 SE 20 6.35 SE 20 6.30 SE 20 6.31 SE 20 6.53 SE 20 6.54 SE 20 6.55 SE								SE		
14 00 6.70 W 15 00 6.33 W 16 00 6.08 WNW 376 17 00 5.80 NW 50 5.70 NW 18 00 5.68 NW 10 5.69L NW 20 5.60L Calm 30 5.61L Calm 40 5.60L Calm 40 5.60L Calm 10 5.65 W 20 00 5.70 WNW 387 F. L. 21 00 5.64 Calm 22 00 6.21 SE 30 6.33 SE 30 6.40 SE 30 6.40 SE 30 6.56 SE 398 J. E. M.  10 6.33 SE 30 6.30 SE 30 6.33 SE 30 6.33 SE 30 6.35 SE 30 6.33 SE 30 6.58H SE 3			W			11		SE		
17 00   5.80   NW   NW   So   5.70   NW   So   5.70   NW   So   5.60   NW   So   5.60   NW   So   5.60   NW   So   5.60   NW   So   5.60   SE   SE   So   J. E. M.	14 00							SE		
17 00   5.80   NW   NW   So   5.70   NW   So   5.70   NW   So   5.60   NW   So   5.60   NW   So   5.60   NW   So   5.60   NW   So   5.60   SE   SE   So   J. E. M.				276				SE SE		
10   5.53   SE   F. L.     10   5.69L   NW     20   5.60L   Calm     30   5.61L   Calm     40   5.64   Calm     50   5.64   Calm     10   5.65   SE   J.E. M.     10   5.65   SE   J.E. M.     22   00   5.85   SE   J.E. M.     23   00   6.05   SE   805   J.E. M.     10   5.53   SE   J.E. M.     20   0.56L   Calm     10   0.565   W     20   0.5.70   WNW   387   F. L.     21   00   5.64   NW   J.E. M.     22   00   6.21   SE   J.E. M.     20   6.29   SE   J.E. M.     20   6.33   SE   J.E. M.     20   6.33   SE   J.E. M.     20   6.33   SE   J.E. M.     20   6.33   SE   J.E. M.     20   6.33   SE   J.E. M.     20   6.35H   SE   J.E. M.     30   6.35   SE   J.E. M.     40   6.33   SE   J.E. M.     50   6.56   SE   J.E. M.     50   6.57   SE   J.E. M.     50   6.53   SE   J.E. M.     50   6.53   SE   J.E. M.     50   6.53   SE   J.E. M.     50   6.53   SE   J.E. M.     50   6.53   SE   J.E. M.     50   6.53   SE   J.E. M.     50   6.53   SE   J.E. M.     50   6.53   SE   J.E. M.     50   6.53   SE   J.E. M.     50   6.53   SE   J.E. M.     50   6.54   E   J.E. M.     50   5.55   SE   J.E. M.     50   5.58   J.E. M.     6.33   J.E. M.     70   6.33   J.E. M.     70   6.33   J.E. M.     70   6.33   J.E. M.     70   6.33   J.E. M.     70   6.33   J.E. M.     70   6.35   J.E. M.     70   70   70   70   70   70     70   70				3/0			5.53	SE	<b>72</b> I	
10 5.69L, NW 20 5.60L, Calm 30 5.61L, Calm 40 5.60L, Calm 50 5.64 Calm 10 0 5.65 W 20 00 5.70 WNW 387 F. L. 21 00 5.94 NW 22 00 6.21 SE 20 6.29 SE 20 6.29 SE 20 6.33 SE 22 06 6.33 SE 23 06 6.33 SE 24 00 6.33 SE 25 06.33 SE 20 6.35H SE 20 6.56H SE 30 6.56 SE 30 6.58H SE 30 6.58H SE 30 6.58H SE 30 6.58H SE 30 6.58H SE 30 6.58SE 30 6.58SE 30 6.58SE 30 6.58SE 30 6.58SE 30 6.58SE 30 6.58SE 30 6.58SE 30 6.33 SE 30 6.35 SE 30 6.35 SE 30 6.30 SE 30 6.30 SE 30 6.30 SE 30 6.30 SE 30 6.30 SE 30 6.30 SE 30 6.30 SE 30 6.30 SE 30 6.30 SE 30 6.30 SE 30 6.33 SE 30 6.35 SE 30 6.30 SE 30 6.33 S	50	5.70				11	5 - 53	SE		
20 5.60L Calm 30 5.61L Calm 40 5.60L Calm 50 5.64 Calm 10 0.5.65 W 20 00 5.70 WNW 387 F. L. 21 00 5.94 NW J. E. M. 22 00 6.21 NW 23 00 6.40 SE 24 00 6.33 SE 24 00 6.33 SE 25 0.33 SE 20 6.35 SE 30 6.40 SE 30 6.56 SE 30 6.56 SE 30 6.56 SE 30 6.56 SE 30 6.56 SE 30 6.56 SE 30 6.56 SE 30 6.58H SE 30 6.58H SE 40 6.60H SE 50 6.53 SE 20 6.32 SE 30 6.13 E 30 6.21 SE 30 6.33 SE 50 6.33 SE 50 6.33 SE 20 6.35 SE 30 6.35 SE 40 6.33 SE 50 6.33 SE 50 6.30 SE 50		5.68 5.60T				11		SE SE		
30 5.61L Calm 40 5.60L Calm 50 5.64 Calm 10 0.5.65 W 20 00 5.70 WNW 387 F. L. 21 00 5.94 NW J. E. M. 22 00 6.21 NW 23 00 6.40 SE 24 00 6.56 SE 398 J. E. M.  June 18, 1904  0 10 6.56 SE 30 6.58H SE 30 6.58H SE 30 6.58H SE 30 6.53 SE 40 6.60H SE 50 6.53 SE 40 6.60H SE 30 6.53 SE 40 6.50 SE 40 6.50 SE 40 6.50 SE 50 6.50 SE 50 5.50 SE 50 5.50 SE 50 5.30 SE 50 5.33 SE 50 5.34 SE 50 5.35						11	6.05	SE		<i>J. 14.</i> 111.
So   S   64   Calm   June 19, 1904		5.61L				24 00		SE	805	J. E. M.
19 00 5.64 Calm 10 5.65 W 20 00 5.70 WNW 387 F. L. 21 00 5.94 NW J.E. M. 22 00 6.21 NW 23 00 6.40 SE 24 00 6.56 SE 398 J.E. M.  June 18, 1904  0 10 6.56 SE J.E. M.  June 18, 1904  0 10 6.56 SE J.E. M.  10 6.33 SE 20 6.35H SE 30 6.35 SE 30 6.30 SE 30 6.35 SE 30 6.3								Tune to t	004	
10 5.65 W 20 00 5.70 WNW 387 F. L. 21 00 5.94 NW J. E. M. 22 00 6.21 NW 23 00 6.40 SE 24 00 6.56 SE 398 J. E. M.  June 18, 1904  0 10 6.21 SE 40 6.33 SE 50 6.33 SE 20 6.35H SE 30 6.35 SE 40 6.60H SE 40 6.60H SE 50 6.53 SE 40 6.60H SE 50 6.53 SE 40 6.53 SE 50 6.30 SE 50 6.30 SE 50 6.30 SE 50 6.31 SE 50 6.32 SE 40 6.56 SE 50 6.33 SE 50 6.35 SE 50 6.35 SE 50 6.35 SE 50 6.30 SE 50 6.35 SE 50 6.35 SE 50 6.30 SE 50 6.35 SE 50 6.35 SE 50 6.30 SE 50 6.35 SE 50 6.35 SE 50 6.35 SE 50 6.35 SE 50 6.35 SE 50 6.35 SE 50 6.35 SE 50 6.35 SE 50 6.35 SE 50 6.35 SE 50 6.35 SE 50 6.35 SE 50 6.35 SE 70 5.31 E 892								June 19, 1	904	
21 00 5.94 NW J. E. M. 30 6.30 SE 40 6.33 SE 50 6.33 SE 50 6.33 SE 50 6.33 SE 50 6.33 SE 50 6.33 SE 50 6.33 SE 50 6.33 SE 50 6.33 SE 50 6.33 SE 50 6.35 SE 50 6.35 SE 50 6.35 SE 50 6.30 SE		5.65			~ ~	II		SE		J. E. M.
22 00 6.2i NW 23 00 6.40 SE 24 00 6.56 SE 398 J. E. M.  June 18, 1904  0 10 6.56 SE J. E. M. 20 6.60H SE 30 6.58H SE 30 6.33 SE 50 6.33 SE 50 6.35 SE 50 6.35 SE 50 6.35 SE 50 6.30 SE 50 6.53 SE 50 5.55 SE 600 5.46 E 500 5.55 SE 600 5.41 E 500 5.33 E 500				387		III		SE		
23 00 6.40 SE 24 00 6.56 SE 398 J. E. M. 1 00 6.33 SE June 18, 1904 20 6.35H SE 20 6.35H SE 30 6.58H SE 40 6.66H SE 50 6.53 SE 40 6.53 SE 20 6.30 SE 20 6.28 SE 30 6.13 E 40 5.50 6.53 SE 20 6.35 SE 400 5.81 E 200 6.32 SE 300 6.13 E 400 5.81 E 300 6.13 E 400 5.81 E 500 5.55 SE 400 5.70 SE 400 5.70 SE 400 5.70 SE 400 5.70 SE 400 5.70 SE 400 5.33 SE 50 6.33 SE 20 6.35H SE 30 6.35 SE 30 6.13 E 400 5.81 E 500 5.35 E 400 5.31 E 500 5.35 E 400 5.31 E 500 5.35 E 400 5.31 E 500 5.32 E 400 5.33 SE					J. 14. 141.			SE		
24 00 6.56 SE 398 J. E. M. 1 00 6.33 SE 20 6.35H SE 30 6.35 SE 30 6.35 SE 30 6.35 SE 30 6.38 SE 30 6.58H SE 30 6.58H SE 30 6.53 SE 40 6.60H SE 30 6.53 SE 400 5.53 SE 400 5.70 SE 439 SE 30 6.05 SE 400 5.70 SE 439 SE 30 5.35 E 400 5.70 SE 439 SE 30 5.35 E 50 6.30 SE 30 5.35 E 50 6.53 SE 30 6.05 SE 30 5.35 E 50 6.53 SE 30 5.35 E 50 6.53 SE 30 6.05 SE 30 5.35 E 50 6.00 5.46 E 50 6.00 5.46 E 50 6.00 5.46 E 50 6.00 5.34 E 50 6.00 5.34 E 50 6.00 5.34 E 50 6.00 5.35 E 50 6.00 E 5		6.40					6.33	SE		
June 18, 1904  0 10 6.56 SE J. E. M. 20 6.35H SE 30 6.35 SE 30 6.58H SE 30 6.58H SE 40 6.60H SE 50 6.53 SE 10 6.53 SE 2 00 6.32 SE 2 00 6.32 SE 3 00 6.05 SE 4 00 5.70 SE 4 00 5.70 SE 5 00 5.55 SE 6 00 5.41 E 10 5.36 E 20 5.34L E J. E. M. 20 5.30 E  J. E. M. 20 6.35H SE 30 6.35 SE 20 6.35 SE 40 6.33 SE 20 6.35 SE 30 6.35 SE 30 6.35 SE 30 6.35 SE 30 6.35 SE 4 00 5.81 E 892  5 00 5.60 E 30 5.35 E 4 05 5.34 E 50 5.33 E 7 00 5.33 E 7 00 5.30 E 10 5.28L E 20 5.34L E 3 J. E. M.		6.56	SE	398	J. E. M.	1 00	6.33	SE		
0 10 6.56 SE J. E. M. 30 6.35 SE 20 6.60H SE 20 6.58H SE 20 6.53 SE 20 6.28 SE 30 6.53 SE 400 5.81 E 892  1 00 6.53 SE 4 00 5.81 E 892  1 00 6.53 SE 500 5.60 E 200 5.34 E 500 5.35 E 500 5.35 E 500 5.33 E 500 5.35 E 500 5.33 E 500 5.35 E 500 5.33 E 700 5.35 E 500 5.35 E 500 5.33 E 700 5.36 E 10 5.36 E 10 5.36 E 10 5.28L E 20 5.34L E J. E. M.			June 18.	1004		I }	6.35H	SE		
0 10 6.56 SE J. E. M. 40 6.33 SE 50 6.30 SE 200 6.28 SE 30 6.58H SE 40 6.60H SE 50 6.53 SE 400 5.53 SE 500 5.60 E 500 5.60 E 500 5.40 E 500 5.55 SE 600 5.41 E 500 5.36 E 500 5.34 E 500 5.34 E 500 5.34 E 500 5.35 E 500 5.35 E 500 5.35 E 500 5.35 E 500 5.33 E 700 5.30 E 700 5.				-3-4			6.35	SE		
20		6.56	SE		J. E. M.		0.33 6.30	SE SE		
40 6.66H SE 50 6.53 SE 1 00 6.53 SE 2 00 6.32 SE 3 00 6.05 SE 4 00 5.70 SE 4 00 5.70 SE 5 00 5.35 E 5 00 5.35 E 6 00 5.41 E 10 5.36 E 20 5.34L E J. E. M.		0.00H 6 #8H	SE SE				6.28	ŠĒ		
50 6.53 SE 1 00 6.53 SE 2 00 6.32 SE 3 00 6.05 SE 4 00 5.70 SE 4 00 5.34 E 5 00 5.35 E 40 5.34 E 50 5.33 E 7 00 5.30 E 10 5.36 E 20 5.34L E J. E. M.		6.60H	ŠĒ			3 00	6.13	E		
1 00 6.53 SE 2 00 6.32 SE 3 00 6.05 SE 4 00 5.70 SE 439	50	6.53	SE			4 00		井	892	
3 00 6.05 SE 4 00 5.70 SE 439 40 5.34 E 5 00 5.55 SE 50 5.33 E 6 00 5.41 E 50 5.30 E 10 5.36 E 10 5.28L E 20 5.34L E J. E. M. 20 5.30 E J. E. M.			SE SE			6 00		Ē		
4 00 5.70 SE 439 5 00 5.55 SE 50 5.33 E 6 00 5.41 E 7 00 5.30 E 10 5.36 E 10 5.28L E 20 5.34L E J. E. M. 20 5.30 E J. E. M.			ŠĒ			30	5-35	Ē		
5 00 5.55 SE 6 00 5.41 E 10 5.36 E 20 5.34L E J. E. M. 50 5.33 E 7 00 5.30 E 10 5.28L E 20 5.34L E J. E. M.	4 00	5.70	SE	43 <b>9</b>				E E		
10 5.36 E 20 5.34L E J. E. M. 10 5.28L E 20 5.30 E J. E. M.	5 00	5.55	SE F					Ë		
20 5.34L E J. E. M.    20 5.30 E J. E. M.			Ĕ		į.	10	5.28L	E		
		5.34L	E		J. E. M.	20	5.30	E		J. E. M.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		June 19, 19	904		}		June 20, 19	904	
h m	Feet		Miles		h m	Feet		Miles	
7 30	5.32	E		J. E. M.	12 00	6.33	SE	392	F. L.
40 50	5.33	Ë			13 00 14 00	6.60 6.71	SE SE		
8 00	5·35 5·39	Ë	971		14 00	6.73	SE		
9 00	5.50 5.80	енененей SS		J. L. M. F. L.	20	6.75H	SE SE		
11 00	5.80 6.10	Ë		F. L.	30 40	6.75 6.72	SE SE		
12 00	6.40	SE	62		50	6.74			
13 00 50	6.59 6.68H	SE E			15 00 16 00	6.70 6.60	SE SE	452	
14 00	6.68	Ē			17 00	6.32	Ē	45-	
10 20	6.63 6.61	E E			18 00 19 14	6.04 5.81	E		
30	6.61	Ē			20 00	5.68	SSS	504	
40 50	6.60 6.60	E			10 20	5.65 5.61	E, E		
15 00	6.55	Ē	0		30	5.60	Ē		
16 00 17 00	6.24 5.94	E E	128		40 50	5.60 5.54	E E		
18 00	5.70	Ē			21 00	5.51L	Ē		
19 00 10	5·59 5·54	E SE			10 22 00	5.53 5.56	ESE		F. L. J. E. M
20	5.52	SE			23 00	5.63	ESE		-
<b>30</b> 40	5.50 5.44	SE SE SE			24 00	5.81	ESE	577	J. E. M.
50	5.45	SE					June 21,	1904	
20 00	5·45 5·40L	SE E E E E	182			6		•	
10 20	5.4017	Ë			1 00 2 00	6.07 6.25	ESE SE		J. E. M.
30	5.47	E, Calm		F. L. J. E. M.	10	6.27	SE		
2I 00 22 00	5.42 5.60	Calm		J. 14. 111.	20 30	6.33 6.39	SE SE		
23 00	5.79 6.06	Calm		J. E. M.	40	6.39	SE		
24 00	0.00	Calm		J. 14. WI.	3 00	6.39 6.43H	SE SE		
		June 20,	1904		10	6.41H	SE		
1 00	6.20	Ë		J. E. M.	20 30	6.43H 6.43H	SE SE		
10 20	6.22 6.22	Ē			40	6.41	SE		
30	6.26	E			50 4 00	6.42 6.38	SE SE	641	
40 50	6.31H 6.29	Ë			10	6.38	SE		
2 00	6.28	E			20 30	6.32 6.30	SE SE		
3 00	6.24 6.20	Ë			5 00	6.26			
4 00	6.18	Ē	240		6 00 7 00	6.11 5.94	SE SE		
5 <b>00</b> 6 <b>00</b>	6.00 5.82	E E			800	5.81	Ē	695	
7 00	5.65	Ē			30 40	5.80 5.80	E		
10	5.62 5.60	E			50	5.80	Ë		
20 30	5.60	Ē			9 00	5.76	Ę		
40	5.55	E	316		10 20	5.74 5.73L	Ë		J. E. M. F. L.
8 00	5.55 5.50L	Ē	3.0		30	5.74L 5.73L 5.75	E		F. L.
20	5 · 59	Ę			40 50	5.734 5.75	Ē		
30 40	5 · 59 5 · 54	Ë			10 00	5·75	Ē		
50	5.59 5.61	E		T T N/	II.00 I2 00	5.92 6.09	E E	758	
9 00 10 00	5.0I 5.70	<u> нененененененененененен</u>		J. E. M. F. L. F. L.	13 00	6.41	я В сепенененененененененененененененененене	, 50	
11 00	5.70 6. <b>0</b> 6	Ė		F. L.	14 00	6.60	Ę		F. L.

Tabulation of tidal observations at Cape Flora, Northbrook Island

		1	1				,			
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	
June 21, 1904							une 22, 19	0.4		
h m 15 00	Feet 6.71	E	Miles	F. L.	h m 22 40	<i>Feet</i> 5 · 44	SE	Miles	J. E. M.	
30	6.72H	SE		1. 4.	50	5.43	SE SE SE		<i>J.</i> 14. 141.	
40 50	6.70 6.71	SE SE			23 00 10	5.4I 5.4I	SE SE			
16 00	6.71	SE	814		20	5.41	SE			
10 20	6.71 6.70	SE SE			30 40	5·37 5.34L	SE SE			
30	6.67 6.60	SE SE			50	5.34	SE	18	T TO ME	
40 50	6.6o	SE			24 00	5.37	SE		J. E. M.	
17 00 18 00	6.60 6.33	SE SE SE					June 23, 1	904		
19 00	6.04	SE			0 10	5.39	SE		J. E. M.	
20 00 21 00	5.82 5.63	SE E	866	F. L.	I 00 2 00	5.53	SE SE SE		•	
50	5.52	SSEEEEEEEEEEEE		J. E. M.	3 00	5.72 5.94	SE			
22 00 10	5 · 47 5 · 47	E E			4 00 5 00	6.13 6.28	SE SE	78		
20	5.47	Ë			10	6.30	SE			
30 40	5·45 5·43	Ë			20 30	6.30 6.31	SE SE		,	
50 23 00	5.43L, 5.43	E			40	6.32	SE			
50 <b>IO</b>	5.49	Ë		~ -1 1.	50 6 00	6.33 6.31	SE SE			
24 00	5.58	E,	884	J. E. M.	10 20	6.33 6.34H	SE SE			
		June 22,	1904		30	6.34	SE			
I 00	5.80	Calm		J. E. M.	40 50	6.31 6.31	SE SE			
2 00	6.03	Calm			7 00	6.30 6.28	SE SE			
3 00 4 00	6.23 6.36	Calm Calm			8 00	6.16	SE	118		
5 00 6 00	6.38H 6.30	Calm Calm			9 00 10 05	6.00 5.90	SE SE		J. E. M. F. L.	
7 00	6. 16	E E	888		20	5.88	SE SE		2. 24.	
8 oo 9 oo	6.09 5.95	W		J. E. M.	30 40	5.84 5.80	SE			
IO 00	5.8oL 5.88	W W		F. L.	50 11 00	5.80 5.76	SE SE			
10	5.88	W		ſ	10	5.8o	SE			
20 12 00	5.91 6.00	W W	914		20 30	5.80 5.73L	SE SE			
13 00	6. 10	W SW	,		40	5.73	SE SE	•		
14 00 15 00	6.40 6.50	SW .			50 12 00	5.79 5.78	SE	149		
40 50	6.60 6.60	W W			10 13 00	5.80 5.86	SE SE			
16 00	6.60	SW	930		14 00	6.05	Calm			
10 20	6.60 6.62	SW SW			15 00 16 00	6.18 6.30	SE SE	164		
30	6.62	SW			17 00	6.35	NE NE	·		
40 50	6.62 6.63H	SW SW				6.38 6.37	NE			
17 00 10	6.61 6.60	SW SW			18 00	6.39 6.34	NE NE			
20	6.58	sw			20	6.39	NE			
18 00 19 00	6.40 6.12	SE SE		<i>,</i>	30 40	6.39H 6.29	NNW W			
20 00 2I 00	5.90	SE SE	954	;	50	6.25 6.21	SW WNW	•		
22 00	5.70 5.50	SE		F. L.	19 00 20 00	6.00	NW .	182		
30	5.48	SE		J. E. M.	21 00	5.70	N		F. L.	

Tabulation of tidal observations at Cape Flora, Northbrook Island

			<u>'</u>		•					
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observ <b>er</b>	
June 23, 1904						June 24, 1904				
h m 22 00 23 00 10	Feet 5.45 5.26 5.25	N N N	Miles	J. E. M.	h m 19 20 30 40	Feet 6.27H 6.30H 6.22	EEEE	Miles	F. L.	
20 30 40 50 24 00	5.25 5.23 5.23 5.19 5.17	N N N N	170	J. E. M.	20 00 21 00 22 00 23 00	6.20 6.19 5.90 5.64 5.39	EEEEEEEE	403 487	F. L. J. E. M. J. E. M.	
		June 24,	1904		24 00	5, 20			J. E. WI.	
0 10 20 30 40 50 1 00 20 2 00 3 00 4 00 5 00 10 20 30 40 50 6 00 10 20 30 40 50 7 00 10 20 30 40 50 10 20 30 40 50 10 20 30 40 50 10 20 30 40 50 11 00 12 00 11 00 12 00 13 00 13	5.16 5.15 5.128 5.131 5.128 5.15 5.20 6.00 6.121	<b>ヱヱヱヱヱ由由由由由由由由由由由由由由由由由由由由由由由由由由由由由由由由</b>	207 239 290	J. E. M. F. L.	0 20 30 40 50 1 00 100 20 30 40 50 2 00 50 6 00 50 7 00 10 20 30 40 50 8 00 10 20 30 40 50 20 30 40 50 6 00 50 7 00 10 20 30 40 50 6 00 50 10 10 10 10 10 10 10 10 10 1	5.18 5.16 5.12 5.10 5.10 5.13 5.12 5.15 5.12 5.15 5.12 5.13 5.13 5.13 6.23 6.33 6.33 6.33 6.34 6.37 6.37 6.37 6.37 6.37 6.37 6.37 6.37	25. REFERENCE ERECEERERERERERERERERERERERERERERERER	578 578 666	J. E. M. F. L.	
15 05 10 20 14 00 15 18 16 00 17 00 18 00 50 19 00	5.67L 5.71 5.74 5.80 5.99 6.10 6.24 6.29 6.30H 6.30H 6.24H	HEEEEEEEEE	343	F. L.	40 50 15 00 16 00 17 00 18 00 19 00 20 00 10	5.80 5.81 5.78 5.87 6.00 6.11 6.24 6.34 6.34 6.34	E EEEEE EEESSSEEEEE EEEESSSSS	814 857	F. L.	

Tabulation of tidal observations at Cape Flora, Northbrook Island

		1	<del></del>	<del> </del>	1						
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer		
June 25, 1904						June 26, 1904					
h m	Feet		Miles		h m	Feet		Miles			
20 30	6.30	SE		F. L.	21 10	6.32	SW		F. L.		
40	6.30	SE SE SE			22 00	6.23	SW SW		J. E. M.		
50 21 00	6.21 6.21	SE SE		F. L.	23 00 24 00	5.99 5.67	św	94	J. E. M.		
22 00	5.98	SE		J. E. M.			•-	71	<b>3</b> - 4		
23 00 24 00	5.67 5.40	SE E	891	J. E. M.			June 27,	1904			
-4 00	3.40		Og1	J. 14. 111.	1 00	5.50	'w		J. E. M.		
		June 26,	1904		30	5·39 5·37	W W		•		
I 00	5.27	ENE		J. E. M.	40 50	5·37 5·33	w				
10	5.23	ENE		-	2 00	$5.3^{2}$	W				
20 30	5.23 5.20	ENE ENE			10 20	5.31 5.29	W W				
40	5.20	ENE			' 30	5.27	W				
50	5.19	ENE			40	5.27	W W				
2 00 10	5.17L 5.17	ENE E			3 00	5.27 5.25	w				
20	5.20	Ē			10	5.24L	W				
30 40	5.20 5.19	臣			20 30	5.27 5.30	W W				
50	5.20	ныныныны 8			40	5.32	W				
3 00	5.21	Ę	000		50 4 00	5.32	W W	116			
4 00 5 00	5.42 5.70	Ë	929		5 00	5.32 5.59	w	110			
5 00 6 00	6.01	SE		- 1 35	5 00 6 00	5.91 6.20	W				
7 00 8 00	6.31 6.46	SE SW	968	J. Ł. M. F. L.	7 00 8 00	6.53	W W	132	J.E. M.		
10	6.49	SW	900	A . 14.	9 05	6.70	W	-3-	F. L.		
20	6.50	W			10	6.72 6.72	W W				
30 40	6.51 6.50	W W			20 30	6.78H	W				
50	6.50	W			40	6.74	W W				
9 00	6.50 6.51	W W			50 10 00	6.76 6.76	W				
20	6.54H	W			10	6.72	W				
30	6.51	W W			II 00 I2 00	6.64	W W	148			
40 50	6.49 6.44	W			13 00	6.43 6.20	W	140			
10 00	6.44	W			14 00	6.05	W W				
11 00 12 00	6.30 6.10	W SW	3		15 00	5.93 5.91	w				
13 00	5.94	SW	3		20	5.91	W				
14 00	5.80 5.80	SW SW			30	5.92	W W				
20	5.80	W			40 50	5.90 5.90L	w				
30	5.8o	W			16 00	5.90	W W	165			
40 50	5.76 5.74L	W			10 20	5.91 5.92	w				
15 00	5.74	W			17 00	6.00	W				
16 00	5.76 5.84	SW SW	42		18 00	6.16 6.30	$f w \\ f w$				
17 00	5.04 6.00	SW	42		20 00	6.45	W	186	F. L.		
18 00	6. 14	SW			21 00	6.57H	W W		J.E. M.		
19 00 20 00	6.25 6.40	W W	70		10 20	6.55 6.54	W				
10	6.40	W	,-		30	6.53	W				
20	6.40H	w sw			40	6.53 6.52	W W				
30 40	6.40 6.40	SW			22 00	6.52	W				
50	6.35	SW		74 7	23 00	6.34	W W		T 10 34		
21 00	6.34	SW		F. L.	24 00	6.07	¥¥	194	J. E. M.		

Tabulation of tidal observations at Cape Flora, Northbrook Island

			<u> </u>						
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		June 28, 19	104			1	June 29, 19	04	
,	т.	June 20, 19	-	j			June 29, 19		
h m I 00	<i>Feet</i> 5.75	$\mathbf{W}$	Miles	J. E. M.	h m 4 20	Feet	42	Miles	J. E. M.
2 00	5 · 57	W		J. 14. 141.	30	5 · 53 5 · 54	SE		J. 24. 2.2.
3 00 10	5.42 5.39	ESE ESE			40 50	5.52 5.54	SE SE		
20	5.36	ESE			5 00 6 00	5.60	SE		
30 40	5.36 5.35L	ESE ESE				5.72 6.03	SE SE		
50	5.37	ESE			8 00	6.42	SE	534	J.E.M.
4 00 10	5.40 5.39	ESE ESE	215		9 00	6.71 7.00	SE SE		F. L.
20	5.40	ESE			20	7.00	SE		
30 40	5.42 5.46	ESE ESE			30 40	7.03 7.05	SE SE		
5 00	5.53	ESE ESE			50	7.07	SE		
6 00 7 00	5.75 6.11	ESE			55 11 00	7.10H 7.09	SE SE		
8 00	6.44	SE SE	246	J.E.M.	10	7.06	SE		
9 00 50	6.75 6.90	SE		F. L.	20 12 00	7.04 7.01	SCOOOSSCOOOOSSCOOOOSSCOOOOSSCOOOOSSCOOOOSSCOOOOOO	565	
10 00	6.90	SEEREEREEREEREEREEREEREEREEREEREEREEREER			13 00 14 00	6.80 6.53	SE		
10 20	6.90 6.92H	SE			15 00	6.30	SE		
30	6.92 6.91	SE			16 00 40	6. 15 6. 10	NE NE	590	
40 50	6.91	SE			50	6.09L	NE		
II 00 I2 00	6.90 6.72	SE	296		17 00 10	6.10 6.11	NE NE		
13 00	6.46	SE	290		20	6.11	NE		
14 00 15 00	6.30 6.10	SE SE			30 40	6. 10 6. 10	SE SE		
50	6.01	SE			50	6.14	SE		
16 <b>0</b> 0	5.98 5.95	SE SE	353		18 00	6.20 6.30	SE S		
20	5.95 5.98	SE			20 00	6.49	sw	607	
30 40	5.98 5.98	SE SE			2I 00 22 00	6.65 6.78	ENE ENE		F. L. J. E. M.
50	5.94	SE			10	6.8o	ENE		<b>3</b> 1 1 1
17 00 10	5.94L, 5.94	SE SE			20 30	6.82 6.84	ENE ENE		
20	6.00	SE			40	6.80 6.87H	ENE ENE		
18 00 19 00	6.10 6.23	SE SE			23 00	6.84			
20 00	6.40	SE	401	F. L.	10 20	6.80 6. <i>7</i> 8	E E E E		
2I 00 22 00	6.58 6.63	SE SE		J. E. M.	24 00	6.70	Ĕ	682	J. E. M.
20	6.64H	SEEEEEEEEEEE					<b>.</b>		•
30 40	6.63 6.61	SE SE					June 30, 1	1904	
50	6.39	SE			1 00	6.51	E		J. E. M.
23 00 24 00	6.51 6.32	SE SE	450	J. E. M.	2 00 3 00	б. 15 б. <b>о</b> 1	NW NW		
·	Ū			,	4 00	5.75	$\mathbf{N}\mathbf{W}$	721	
		June 29, 190	04		10 20	5.73 5.70	NW NW		
1 00	6.07	SE		J. E. M.	30	5. <i>7</i> 0	NW		
2 00 3 00	5.81 5.66	SE SE			40 50	5.72 5.72	NW NW		
30	5.56	ŠĒ			5 00	5.70	W		
40 50	5·53 5·52	SE			10 20	5.69L, 5.70L,	W W		
4 00	5.51	SSSSEEEE SSSSSSSSSSSSSSSSSSSSSSSSSSSSS	498		30	5.69L	W		
10	5.50L	SE		J. E. M.	40	5.72	W		J. E. M.

Tabulation of tidal observations at Cape Flora, Northbrook Island

		1	,		<u> </u>	1	1	T			
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer		
June 30, 1904						July 1, 1904					
h m	Feet		Miles		h m	Feet		Miles			
	5.73	W		J. E. M.	11 40	7.12	NW	272 770 3	F. L.		
5 50 6 00	5.80	W		_	50	7 14H†	NW		•		
7 00 8 00	6.01 6.32	W W	754	J. E. M.	12 00	7.10 7.12	NW NW	30			
9 00	6.32	W	754	F. L.	20	7.12	ŇŴ				
10 00	6.97	W W			30	7.10	NW NW				
11 IO 20	7.15 7.20H	w			40 50	7.09 7.05	NW NW				
30	7.19	SW			13 00	7.04	NW				
40 50	7.19 7.14	SW SW			14 00 15 00	6.84* 6.52*	NNW NNW				
12 00	7.10	SW	790		16 00	6.30*	NNW	136			
13 00 14 00	6.99	SW SW		:	17 00 18 00	6.06*	NNW NNW				
15 00	6. <i>77</i> 6.52	SW			10 00	5.90 5.90	NNW				
16 00	6.34	SW SW	823		20	5.86	NNW				
17 00 10	6.24 6.20	SW			30 40	5.84 5.83L	NNW NNW				
20	6.20	SW			50	5.85	NNW				
25 30	6.19 6.20	S			19 00 20 00	5.90 5.95	NNW NW				
35	6.16L	Š			21 00	6.12	NW	216	F. L.		
40 50	6.20 6.20	S			22 00 23 00	6.25 6.41	NW NW		J. E. M.		
18 00	6.20	ŝ			24 00	6.53	NW		J. E. M.		
10 20	6.20 6.21	Ş					~ .		-		
30	6.24	Saaaaaaaaaaas					July 2, 1	904			
19 00	6.24	Ş	940		0 10	6.51	NW	257	J. E. M.		
20 00 21 00	6.44 6.64	S	840	;	20	6.52	NW				
22 00	6.8i	S		F. L.	30 40	6.54H 6.52	NW NW				
50 23 00	6.92 6.90	W		J. E. M.	50	6.50	NW				
10	6.90	W			I 00 2 00	6.48 6.34	NW NW				
20 30	6.93 6.96H	W W			3 00	6.06	NW				
40	6.92	W			4 00	5.80 5.69	NW NW	301			
50 24 00	6.92 6.90	W W	862	J. E. M.	5 00 6 00	5.61	NW				
24 00	0.90	**	002	J. 14. 191.	10	5.60	NW				
		July 1, 1	1904		20 30	5·57 5·55L	NW NW				
1 00	6 ==	W		J. E. M.	40	5.60	NW				
2 00	6.75 6.50	w		J. 12, 1VI.	50 7 00	5.61 5.63	NW NW				
3 00	6.23	W	0		10	5.65	WNW				
4 00 5 00	6.02 5.89	W W	899		8 oo 9 oo	5·74 6.08	WNW WNW	363	J. E. M. F. L.		
10	5.85	W			10 00	6.35	WNW		2. 4.		
20 30	5.83L 5.85	W W			II 00 I2 00	6.62 6.82	NW NW	405			
40	5.87	W			12 00	6.82	W	405			
50 6 oo	5.88	W W			20	6.88	$\mathbf{W}^{\cdot}$				
7 00	5.90 5.98	W			30 40	6.84 6.90H	W W				
8 00	6.21	W	934	J.E.M.	50	6.90	W				
9 00 10 00	6.65 6.80	NW NW		F. L.	13 00	6.84 6.90	W W				
II 00	7.09	NW			20	6.82	W				
10 20	7.04 7.08†	NW NW			I4 00 I5 00	6.80 6.52	W W				
30	7.10	NW		F. L.	16 00	6.24	W	431	F. L.		
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Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		July 2, 19	04			1	July 4, 1	904	
h m	Feet	•••	Miles		h m	Feet		Miles	
17 00 18 00	6.00 5.80	W W		F. L.	I 00	6.40 6.41	W W		J. E. M.
I9 00 I0	5.72 5.73	W W			20 30	6.43 6.40	W W		
20	5.75_	W			40	6.43H	W		
30 40	5.70L 5.70	W W			50 2 00	б.40 б.37	W W		
50 20 00	5.72 5.74	W W	472		10 20	6.36 6.35	W W		
21 00	5.90	W	4/2	F. L.	3 00	6.27	W	0	
22 00 23 00	6.04 6.21	W W		J. E. M.	4 00 5 00	6.12 5.93	NW NW	830	
24 00	6.34	W	521	J. E. M.	5 00 6 00 7 00	5.85 5.78	NW NW		
		July 3, 1	1904		10 20	5·73 5·75	NW NW		
0 30 40	6.37 6.39	NW NW		J. E. M.	30 40	5·73 5·73	NW NW		
50	6.41	NW			50 8 00	5.72 <b>L</b> , 5.78	NW NW	870	
I 00	6.40 6.36	NW NW			10	5.80	NW NW	0,0	
20 30	6.40 6.42H	NW NW			20 9 00	5.83 5.88	NW		J. E. M.
40	6.39	NW			10 00	б. 12 6. 34	NW NW		F. L.
50 2 00	6.39 6.36	NW NW			12 00 13 00	6.54 6.74	NW NW	903	
3 00 4 00	6.19 5.94	NW WNW	594		10	6.72	NW		
5 00	5.81	WNW	394		20 30	6. <i>7</i> 4 6. <i>7</i> 7	NW NW		
б оо 7 оо	5.67 5.59L	WNW NW			40 50	6.79 6.80H	NW NW		
10 20	5.63 5.65	NW NW			14 00	6.75	NW		
30	5.69	NW			10 15 00	6.71 6.69	NW NW		
40 50	5.70 5.71	NW NW			16 00 17 00	6.45 6.25	NW NW	924	
8 00 9 02	5.73 5.92	N N	588	J. E. M. F. L.	18 00	6.00	NW		
10 00	6.20	N		1. 24.	19 00 20 00	5.83 5.74	NW NW	950	
II 00 I2 00	6.50 6.74	NW NW	634		10 20	5.70	W	950	
13 O5 10	6.90H 6.89	NW NW			30	5.70 5.70	$\mathbf{w}$		
20	6.85	NW			40 50	5.69L, 5.71	W W		
30 40	6.90 6.84	NW NW			21 00 10	5.75 5.72	W		
50 14 00 .	6.82 6.82	NW NW			20	5· <b>7</b> 4	W	,	
10	6.80	NW			30 22 00	5 · 77 5 · 79	W W		F. L. J. E. M.
15 00 16 00	6.65 6.44	NW W	682		23 00 24 00	5.90 6.03	W W	960	J. E. M.
17 00 18 00	6.15 5.91	W NW			24 00	0.03		-	J. 14. 1VI.
10 00	5.80 5.76	NW NW					July 5, 19	004	
20	5.80	NW NW			10 1 00	6.20 6.25	NW <b>NW</b>		J. E. M.
30 40	5.76 5.73	NW			20	6.26	NW		
50 20 00	5.73 5.71L	NW NW	<b>7</b> 45		30 40	6.25 6.28	NW NW		
10	5. <i>7</i> 6	NW NW	. 10		50 2 00	6.30 6.30	NW NW		
20 21 00	5. <i>7</i> 8 5.80	NW		F. L.	10	6.30	NW		
2 00	5.93 6.04	NW NW		J. E. M.	20 30	6.31 6.33H	NW NW		
4 00	6.28	ŴŃW	790	J. E. M.	40	6.31H	NW		J. E. M.

Tabulation of tidal observations at Cape Flora, Northbrook Island

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Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		July 5, 190	04				July 6, 19	04	
h m	Feet		Miles		h m	Feet		Miles	
2 50	6.33H	NW	111 1162	J. E. M.	3 10	6.21	S	1/1 1/12 3	J. <b>E</b> . M.
3 00	6.30	NW		J. 14. 111.	20	6.22	Š		J. 141.
10	6.29	NW NW			30	6.23H	Ş		
20 30	6.27 6.25	NW			40 50	6.21 6.20	<i></i>		
4 00	6. 16	NW	971		4 00	6.20	Š	66	
5 00 6 00	6.02 5.90	NW NW			10 20	6.21 6.21	S		
7 00	5.81	NW			30	6.20	Š		
8 00	5. <i>7</i> 8	NW	983		40	6.19	S		
10 20	5.78 5.76L	NW NW			50 5 00	6.16 6.11	S		
30	5.8o	NW			5 00 6 00	б.от	sw		
40	5.79 5.82	NW NW			7 00 8 00	5.93	SW W		
50 9 00	5.83	NW		J. E. M.	10	5.92 5.92	w	77	
10 00	5.96	W		F. L.	20	5.92	W		
II. 00 I2 00	6. 14 6. <b>39</b>	W W	7		30 40	5.91L, 5.91L,	f w		
13 00	6.52	W	,		50	5.91L	W		
14 00	6.61 6.62	SW SW			9 00	5.91L	W W		
10 20	6.66H	SW			10 20	5·93 5·93	W		
30	6.63	sw			30	5.94	W		
40 50	6.64 6.66	SW SW			35 40	5.90 5.92	W W		
15 00	6.61	SW			50	5.91	W		
10	6.60	sw			10 00	5.92	W W		J. E. M. F. L.
16 00 17 00	6.50 6.25	S S	25		II 00 I2 00	6.13 6.30	W	90	F, L,
18 00	6.04	S			13 00	6.46	W		
19 00 20 00	5.93 5.74	฿๛๛๛๛๛๛๛๛๛๛๛๛๛๛ ๛	38		14 00 10	6.60 6.60	SSE SSE		
10	5.71	Š	30		20	6.61	SSE		
20	5.70	Ş			30 40	6.60 6.61	SSE SSE		
30 40	5. <b>70</b> 5. <b>74</b>	S			50	6.63H	SSE		
50	5.72	S			15 00	6.62	SSE		
2I 00 I0	5.70 5.64	S			10 20	6.61 6.62	SSE SSE		
20	5.63L	Š			30	6.62	SSE		
30 40	5.66 5.64	Ş			40 50	6.62 6.62	SSE SSE		
50	5.63	Š			16 00	6.60	SSE	107	
22 00	5.64	S		F. L.	17 00	6.50	ENE ENE		
23 00 24 00	5.73 5.86	SE SE	56	J. E. M. J. E. M.	19 00	6.31 6.14	ENE		
•	<b>U</b>		5	J. 4	20 00	5.98	ENE	120	
		T.1 6 -			2I 00 20	5.90 5.84	ENE ENE		F. L. J. E. M.
		July 6, 1	904		30	5.83	ENE		J. 14. 141.
1 00	5.99	S		J. E. M.	40	5.83 5.81	ENE ENE		
50	6.13	ន្ទ័		J. 14. 141.	50 22 00	5.80L	ENE		
2 00	6.15	S			10	5.8oL	ENE		
10 20	6. 18 6. 18	S			20 30	5.81 5.83	ENE ENE		
30	6.17	Š			40	5.83	ENE		
40 50	6.20 6.20	๛๛๛๛๛๛๛๛			23 00	5.84 5.84	ENE ENE		
3 00	6.20	š		J. E. M.	24 00	5.04 5.93	ENE	127	J. E. M.
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Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		July 7,	1904				July 7, 190	04	· · · · · · · · · · · · · · · · · · ·
h m	Feet		Miles		h m	Feet		Miles	
1 00	6.09	ENE	111 111 3	J. E. M.	23 30	5.95L	NE	1/1 /// 3	J. E. M.
2 00 3 00	6.30 6.43	ENE W			40 50	5.95L 5.95L	NE NE		
10 20	6.43 6.43	W			24 00	5.98	NÉ	244	J. E. M.
30	6.46	W					T 1 0		
40 50	6.49 6.50	W W					July 8, 1	904	
4 00	6.50 6.50	W W	137		0 10	6.00	ŊĔ		J. E. M.
20	6.53H	$\mathbf{w}$			1 00 2 00	6.04 6.12	E E		
30 40	6.53H 6.51	W			3 00 4 00	6.38 6.53	SE SE	264	
50 5 00	6.50 6.49	W W			5 00 10	6.63 6.66	SE SE		
6 00	6.49 6.48	W W			20	6.68	SE		
7 00 8 00	6.40	ESE		T 72 34	30 40	6.70H 6.70H	SE SE		
9 00	6.37 6.33	ESE ENE	152	J. E. M. F. L.	6 00	6.70H 6.70H	SE SE		
10 20	6.32 6.31	ENE ENE			I0 20	6.69 6.66	SE SE		
30	6.32 6.30	E			30	6.63	SE		
40 50	6.30	Ĕ			7 00 8 00	6.62 6.59	SE NW		
58 10 00	6.28L, 6.30	E E			8 00	6.53 6.50	NW W	293	J. E. M. F. L.
10 20	6.30 6.31	н Бининининин Б			10 00	6.43 6.42	SW SW		2.24.
30	6.32 6.33	Ë			20	6.41	WNW		
40 50	6.37	Ĕ			30 40	6.40 6.45	WNW WNW		
II 00 I2 00	6.40 6.50	ESE	190		50 11 00	6.42 6.42	· NW		
13 00 14 00	6.63	ESE			10 20	6.38L, 6.38L,	NW NW		
15 03	6.79 6.88	NE NE NE NE NE			30	6.44	NW		
30 40	6.90 6.90	ŅĒ			40 50	6.43 6.46	NW NW		
50 16 00	6.91H 6.91H	NE NE	212		I2 00 I3 00	6.47 6.56	NW NW	353	
10 20	6.90 6.89	NE NE			14 00 15 00	6.64 6.75	NW NW		
30	6.88	NE			16 00	6.82	NW	389	
40 50	6.90 6.89	NE NE			10 20	6.83 6.84H	NW NW		
17 00 18 00	6.84 6.71	NE NE			30 40	6.84H 6.84H	NW NW		
19 00 20 10	6.50 6.28	NE NE	228		50 17 00	6.82 6.78	NW NW		
21 00	6.05	ŅĒ	220	F. L.	18 03	6.76	NE		
40 50	6.05 6.03	NE.		J. E. M.	19 00	6.65 6.40	NE NE	440	
22 00 10	6.03 6.02	NEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE			2I 00 22 00	6.24 6.07	SW SW		F. L. J. E. M
20	6.01	NE			23 00	5.90	SW SW		g - mgs 414
30 40	6.00 6.00	ŅĒ			10 20	5.90 5.90	sw		
50 23 00	5·97 5·97	NE NE			30 40	5.91 5.89	SW SW		
10 20	5.99 5.95L	NE NE		J. E. M.	24 00	5.84 5.80	sw s	449	J. E. M
20	3.9314	NL		J. 14. WI.	77 24 00	5.00	, o	449	J. 14. 19

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
	<u> </u>	July 9, 19	004	~ ~			July 10, 19	04	
h m 0 10 20 30 40 50 1 00 2 00	Feet 5.83 5.80L 5.83 5.83 5.81 5.84 5.96		Miles	J. E. M.	h m 0 30 40 50 1 00 10 20 30	Feet 5.70L, 5.70L, 5.70L, 5.70L, 5.70L, 5.69L, 5.70L,	апапапапапа	Miles	J. E. M.
3 00 4 00 5 00 10 20 30 40 50 6 00 10 20 30	6.14 6.38 6.50 6.58 6.60 6.60 6.62 6.63 6.63 6.65 6.68 6.68	฿๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛ ๛	456		40 50 2 00 3 00 4 00 5 00 6 00 7 00 10 20 30 40	5.72 5.73 5.75 5.85 6.33 6.55 6.70 6.71 6.72 6.73 6.73	SSSWSWWWWWWWWWW	544	
50 7 00 10 20 30 40 50 8 00 9 00 11 00 12 00	6.68 6.70H 6.70H 6.65 6.62 6.60 6.60 6.58 6.50 6.43 6.34L	aaaaaaaaaaaaa	463 477	J. E. M. F. L.	8 00 10 20 25 30 40 50 9 00 10 00 11 00 12 00 13 00	6.74 6.75 6.76 6.78H 6.75 6.70 6.70 6.66 6.53 6.40	337	554	J. E. M. F. L.
10 20 30 40 50 13 00 10 14 00 15 00 16 00 17 00	6.36L, 6.36L, 6.34L, 6.34L, 6.33L, 6.40 6.41 6.43 6.50 6.63 6.63	SW WSW WNW N N	 494		10 20 30 40 50 14 00 10 20 30 40 50	6.31 6.30L, 6.30L, 6.32 6.31 6.34 6.36 6.36 6.34 6.41 6.42	W W W W W W W		
18 00 05 10 20 30 40 50 19 00 20 00 21 00 22 00	6.68H 6.69H 6.68H 6.65 6.61 6.60 6.56 6.44 6.25 6.03	}oooooooooooooo	509	F. L. J. E. M.	15 00 16 00 17 00 18 00 44 50 19 00 10 20 25 30	6.41 6.51 6.63 6.70 6.80 6.71 6.70 6.76 6.74 6.80H 6.73	WEEEEEEEEW	584	
23 00 24 00	5.89 5.78		535	J. E. M.	40 50 20 00	6.71 6.73 6.69	W N N	бог	
0.10	E 72	July 10, 1	1904	J. E. M.	2I 00 22 00 23 00	6.50 6.30 6.08	N NW NW		F. L. J. E. M.
0 I0 20	5.73 5.71	S S		J. E. M. J. E. M	24 00	5.88	NW :	647	J. E. M.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observe
		Teeler ve			j .		T1		
		July 11,					July 12, 19	•	
h m	Feet		Miles		h m	Feet	27777	Miles	T TO 3.6
I 00	5 · 75 5 · 75	NW NW		J. E. M.	8 oo 9 oo	6.95 7.16	NW NW	948	J. E. M F. L.
20	5.70	NW			10	7.14	NW		<del></del> -
30	5.68 5.65L	NW NW			15 20	7.19 7.20H	NW NW		
40 50	5.65L	NW			30	7.14	NW		
2 00	5.65L	NW			40	7.11	NW NW		
10 20	5.65L, 5.64L,	NW NW			10 00	7.14 7.15	NW		
30	5.64L	NW			10	7.10	NW		
40 50	5.67 5.70	NW NW			II 00 I2 00	7.02 6.83	NW NW	983	
3 00	5.70	NW			13 00	6.60	W	5-0	
4 00 5 00	5.97 6.28	NW NW	696		14 00 10	6.48 6.43	W W		
6 00	6.53	NW			20	6.40	W		
7 00 8 00	6.80	NW NW	n6m	J. E. M.	30 40	6.40 6.30L	W W		
50	6.89 6.94H	NW	767	F. L.	50	6.34L	W		
9 00	6.94H	NW			15 00	6.34L	W W		
10 20	6.93H 6.90H	NW NW			10 20	6.30L 6.39	NW		
30	6.93H	NW			30	6.39	NW	-6	
40 50	6.94H 6.90	NW NW			16 <b>00</b> 17 00	6.40 6.50	NW NW	36	
10 00	6.86	NW			18 00	6.70	W		
10 00	6.85 6.70	NW NW			19 03 20 00	6.76 6.86	W NW		
12 00	6.60	NW	822		21 00	6.89	W		
I3 00 I4 00	6.45	NW NW			10 20	6.8 <sub>4</sub> 6.8 <sub>9</sub> H	W W		
20	6.44 6.30L	NW			30	6.83	W		
15 15	6.39	NW W	960		40 50	6.78 6.80	W W		
16 00 17 00	6.42 6.54	w	863		22 00	6.74	W		F. L.
18 00	6.66	W			23 00 24 00	6.50 6.23	NW NW	94	J. E. M J. E. M
19 00 20 00	6.78 6.80H	NW NW	88ı		24 00	0.23	11 11	94	J. 14. 111
21 00	6.73	NW		T) T			July 13, 1	904	
22 00 23 00	6.54 6.28	NW NW		F. L. J. E. M.	1 00	۳ ۵۵	NW		J. E. M
24 00	5.99	NW	909	J. E. M.	2 00	5.98 5.73	NW		J. 14. WI
		July 12,	1904		3 00 10	5.67 5.65	NW NW		
	. 0-		- •	J. E. M.	20	5.60 5.63	NW NW		
I 00 2 00	5.80 5.65	NW NW		J. E. 1VI.	30 40	5.63 5.63	NW		
10	5.63	NW			50	5.60L	NW		
20 30	5.63 5.60L	NW NW		`	4 00 10	5.62 5.65	NW NW	127	
40	5.60L	NW			20	5.67	NW		
50 3 00	5.6oL 5.6oL	NW NW			30 40	5.67 5.70	NW NW		
10	5.63	NW			50	5 · 77	NW		
20	5.63 5.68	NW NW			5 00 6 00	5.85 6.20	NW NW		
30 40	5.70 5.70	NW			7 00	6.55	NW		
50	5.71	NW			8 00	6.88	NW	140	J.E.M
4 00	5.74 6.05	NW NW	925		9 00	7.10 7.14	NW NW		F. L.
5 00 6 00	6.39	NW		7 7 3 7	40	7.20	NW		<del>-</del> 1 ~
7 00	6.76	NW		J. E. M.	50	7.20	NW		F. L.

Tabulation of tidal observations at Cape Flora, Northbrook Island

								,	
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		July 13, 19	04				July 14, 19	04	
h $m$	Feet	****	Miles	** *	h m	Feet	707	Miles	73 7
9 56 10 00 10 20 30 40	7.24H 7.22 7.21 7.20 7.18 7.20	NW NW NW NW NW NW		F. L.	16 30 40 50 17 00 18 00 19 00	6.10L, 6.10L, 6.13 6.15 6.25 6.40	ESE ESE ESE ESE SE		F. L.
50 11 00 12 00 13 21	7. 18 7. 11 6. 91 6. 61	NW NW NW NW	165	•	20 00 21 00 22 00 10	6.68 6.83 6.93 6.90	SE SE SE SE	366	F. L. J. E. M.
14 00 15 00 16 00 10	6.50 6.30 6.24 6.24	NW NW NW NW	189		20 30 40 50	6.93 6.94H 6.90 6.88	SE SE SE SE		
20 30	6.25 6.21L	NW NW			23 00 24 00	6.87 6.73	SE SE	413	J. E. M.
40 50 17 00	6.24 6.30 6.30	NW NW NW					July 15, 1	1904	
18 00 19 00 20 00 21 00 22 00	6.50 6.61 6.80 6.90 6.90	NW NW NW NW NW	207	F. L. J. E. M.	1 00 2 00 3 00 4 00	6.39 6.08 5.80 5.64	SE SE SE	46o	J. E. M.
10 20 30 40 50	6.91 6.93H 6.90 6.85 6.83	NW NW NW NW NW		J. 14. WI.	10 20 30 40 50 5 00	5.63 5.61 5.56 5.53 5.52L 5.58	SE SE SE SE NNE		
23 00 24 00	6.80 6.52	NW NW July 14,	212	J. E. M.	6 00 7 00 8 00	5.61 5.72 6.05 6.38	NNE NNE NNE NE	485	J E. M.
I 00	6. 18	NW	1904	J. E. M.	9 00	6.80 7.11	NW NE	403	F. L.
2 00 3 00 4 00 10 20 30 40 50	5.92 5.72 5.63 5.63 5.61L 5.61L 5.66 5.68	NE NE EEEEEEEE	221	•	10 20 30 40 50 55 11 00	7.14 7.20 7.20 7.22 7.24 7.25 7.24 7.29	NE NE NE NE NE NE NE		
5 00 6 00 7 00 8 00 9 00	5.70 6.00 6.31 6.69 7.00 7.20	e ssee ss ss ss	248	J. E. M. F. L.	14 20 23 30 40 50 12 00	7.30 7.30 7.33H 7.30 7.25 7.29 7.29	NW WNW NW NW NW NW	£22	
10 16 20 30 40 50	7.21 7.24 7.21 <b>7.20</b> <b>7.26</b> H 7.26H	SE SE SE SE			13 00 14 00 15 00 16 00 17 00	7.10 6.70 6.48 6.24* 6.10*	NW NW NW N	532 604	
11 00 12 00 13 00 14 00 15 00	7.20 7.08 6.76 6.54 6.30	SE SS SS SS	265		10 20 30 40 46	6.09* 6.10* 6.10* 6.10* 6.06L*	N N N N		
16 00 20	6.14 6.13	ESE ESE	310	F. L.	18 00	6.05L* 6.10	N N		F. L.

Tabulation of tidal observations at Cape Flora, Northbrook Island

									<del></del>
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		Tulo Te To	204				T10 -		
		July 15, 19					July 18, 1	904	
h m	Feet		Miles		h m	Feet		Miles	
19 00	6.24	N N	604	F. L.	8 40	6.10	E		F. L.
20 00 21 00	6.50 6.73	N	694	F. L.	9 00	6.30 6.54	E.		
22 00	6.91	N		J. E. M.	11 06	6.89	Ē		
23 00	7.02	N			12 00	7.13	E	191	
10 20	7. 10H 7. 10H	N N			13 00 14 00	7.22 6.21	Ē		
30	7.05	N N			15 00	6.94	Ē		
40	7.03	N N			16 00	6.64	Ë	236	
50 24 00	7.00 6.94	N	755	J. E. M.	17 00	6.30 6.10	Ę		
-4 00					10	6.02	енененене <b>не</b> К		
		July 16, 1	1904		20 30	6.00 5.96	NE NE		
1 00	6.72	Ŋ		J. E. M.	40	5.90	NE		
2 00	6.48	N N			50	5.90	NE		
3 00 4 00	6.15 5.88	N N N	865		55 19 00	5.86 5.91	NE NE		
50	5·75_	Ŋ	_		19 00	5.85	NE		
5 00	5.70L, 5. <b>70</b> L,	N N N N			12	5.81	NE		
20	5.73	Ñ			20 30	5.84 5.80	ESE ESE		
30	5.69	Ŋ			20 00	5.8o	ESE	292	_
40 50	5.63 5.68	N N			2I 00	5.84	E		F. L.
6 00	5.74	NE			22 00 23 00	6.03 6.22	E		J. E. M.
7 00	5.93	E E	000		24 00	6.43	$\overline{\mathbf{E}}$	323	J. E. M.
8 00 9 00	6.28 6.67	Ë	932	J. E. M.	Dial r	ead 44 mile	ac at 8:00		
10 15	7.09*	ENE		F. L.				.o5 feet to	reduce read-
11 00 12 00	7.28* 7.38H*	ENE NE	44			to old gau			f
13 00	7.31*	ENE	44			gauge was old one ha		out 250 feet	from where
14 00	6.96*	Ē				ord one ma			
15 00	6.72* 6.40*	E E E	164				July 19, 1	1904	
17 00	6.26*	Ē.			1 00	6.64	E		J. E. M.
18 00	6.22*	NE			10	6.66	E		•
19 00 20 00	6.19L* 6.39*	NE	290		20	6.72 6.72	E		
21 00	6.50	NE NE NE NE		F. L.	30 40	6.73H	Ē		
22 12	6.82*	NE NE		J. E. M.	50	6.72H	E		
23 00 24 00	7.02* 7.11*	NE	340	J. E. M.	2 00 IO	6.73H 6.70	E E		
					20	6.69	Ē		
High nigh		gale from a	ibout 9:30 a	. m. to mid-	II ~	6.64 6.60	Еверенееверее		
Tide r	eading tak	en from sh	ore with fiel	ld glasses.	3 00	6.40	Ë	400	
		July 17,	T004	i	5 00	6.19	Ĕ		
			1904	T T T T T T T T	6 00	6.01 5.90	ESE		
I 00	6.93*	Ĕ,		J. E. M.	10	5.88	ESE		
2 00 3 00	6.74 <b>*</b> 6.46*	Ë		•	20	5.84	ESE ESE		
4 00	6.22*	Ē	44I		30 40	5.79L 5.82	ESE		
5 00	6.05*	E			50	5.8o	ESE		
6 00 7 00	5.89* 6.02*	EEEEEEE			8 00	5.79	ESE	452	
8 00	6.34*	ESE	563	J. E. M.	10	5.79 5.75	ESE ESE		J. E. M.
Dial re	ad 688 mil	es at 12 no	on and 030 1	niles at 8:00.	20	5.82	ESE		F. L.
Tide g	gauge carri	ed away b	y high east	to southeast	30	5.84	N NW		F. L.
gale	s and swell	is.		1	9 00	5.93	74 AA		г. ц.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		July 19, 19	004				July 20, 19	04	
h m	Feet		Miles		h m	Feet	,, _0, _9	Miles	
10 00	6.14	NW	1/1 1/103	F. L.	15 40	6.47 6.65	E	mues	F. L.
II 00 I2 00	6.40 6.65	NW NW	462		16 oo	6.65 6.64	E E E	526	•
13 00	6.81 6.91	NW NW	400		17 00	6.45	SE	520	
14 00	6.91	NW			18 00	6.16 5.90	SE SE		
16 20	6.96H 6.91	NW NE		1	20 00 IO	5.69 5.62	SE SE SE	544	
30 40	6.93 6.89	E			20	5.60 5.56	SE		
50	6.90 6.88	EEEE SEE SEE Call			30 40	5.59	SE SE SE		
15 oo 16 oo	6.61	SE	472		21 00	5·54 5·54	SE SE		
17 00 18 00	6.30 6.02	SE Calm			10 20	5.50 5.50	SE		
19 01 20 00	5.78 5.60	SEEEEESSESSE	478		30	5.44	EEEEEEEEEEE SSSSSSS		
10	5.58	SE	4/0		40 50	5·45 5·43 <b>L</b> ,	E		
20 30	5.51L 5.51L	SE SE			22 00 10	5.49 5.49	E E		F. L.
40 50	5.52 5.49	SE SE			23 00 24 00	5.57 5.51	E	551	J. E. M. J. E. M.
2I 00 22 00	5.52 5.62	SE SE			-4 55	3.34			J. 14. 141.
23 00	5.78	SE	400	15 7			July 21, 1	1904	
24 00	5.99	SE,	492	F. L.	I 00 2 00	5.95 6.21	E E		J. E. M.
		July 20,	1904		3 00 10	6.38 6.40	ненененененененене		
I 00 2 00	6.24 6.41	SE SE		J. E. M.	20	6.40	Ē		
10	6.43	SE			30 40	6.42 6.42	E		
20 30	6.47 6.43	SE SE			50 4 00	6.45H 6.43	E E	557	J. E. M.
40 50	6.44 6.50H	SE SE			10 20	6.42 6.40	Ë	337	F. L.
3 00	6.50H 6.48H	SE			30	6.38	Ē		
20	6.48H	SE			5 00 6 00	6.38 6.27	E E		
30 40	6.45H 6.47H	SE			7 00 8 00	б. 14 б. 12	SE SE	567	
50 4 00	6.50H 6.44	SEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE			9 00 10 05	6.00 6.01	Ē	207	
10 5 00	6.40 6.22	SE SSE	500		10	6.00	Ë		
6 00	5.97 5.88	SE		7 77 76	20 30	5.96L 6.00L	SW SW		
7 00 8 00	5.85	SE E E E E E E E E E E E E E E E E E E	507	J. E. M. F. L.	36 40	5.96L, 6.01	SW SW		
40 47	5.80 5.77L	SSE SSE			50 11 00	6.02 6.05	S E		
50 9 00	5.80 5.81	SSE			12 00	6.20	Calm	577	
10 07	5.90	SE			13 00 14 00	6.44 6.60	NE NE		
II 00 I2 00	6.10 6.34	W W			15 00 16 07	6.70 6.72H	Calm EEEEEEEES	587	
I3 00 I4 00	6.50 6.74	W. W			I0 20	6.69 6.66	Ë	20/	
50 15 00	6.76 6.80H	N			30	6.66	Ē		
10	6.8oH	W N E E E			40 50	6.66 6.62	E E		
20 <b>3</b> 0	6.76 6.74	E E		F. L.	17 00 18 00	6.59 6.40	E S		F. L.
				()					1°. 14.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		July 21, 19	904				July 22, 19	04	
h m 19 00 20 00 21 00 22 00 17	Feet 6.18 5.98 5.80 5.66 5.61	S SSE SSE SSE	Miles 602	F. L. F. L. A. V.	h m 19 04 20 00 21 00 22 00 23 00	Feet 6.55 6.28 6.10 5.93 5.81	E ESE S Calm ESE	<b>Miles</b> 684	F. L. F. L. A. V.
20 30 40 50	5.60 5.62 5.55L 5.55L	SSEE SSSEE SSSEE SSSEE			24 00	5.65L	ESE July 23,	696 1904	A. V.
23 00 10 20 24 00	5.57 5.60 5.62 5.63	SSE SSE SW	610	A. V.	0 10 20 30 40	5.70 5.68 5.68 5.70	ESE ESE ESE ESE		A. V.
1 00 2 00 3 00 52 4 00	5.82 6.02 6.27 6.42	July 22, Calm SW SW SW WSW	1904 627.5	A. V. A. V. C. E. R.	50 I 00 2 00 3 00 4 00 5 00 22	5.72 5.73 5.84 6.12 6.40 6.58 6.68	ESE ESE Calm ESE Calm E	707	A. V. C. E. R.
10 20 30 40 50 5 00 10 20 30	6.48 6.49 6.49 6.52 6.52 6.55 6.60 6.58 6.62H	W W W Calm W W W			30 40 50 6 00 10 7 00 10 20 30	6.65 6.68 6.71 6.69 6.65 6.70 6.72 6.75H 6.76H 6.67	ененененен		
40 50 6 00 10 20 7 00 55 8 00	6.60 6.58 6.59 6.57 6.55 6.52 6.35	W W W W W W	641.7		40 50 8 00 10 9 00 10 00 11 00 40	6.70 6.67 6.63 6.58 6.50 6.40 6.40	Calm Calm W	726	C. E. R. F. L.
9 00 10 00 11 00 10 20 30 40	6.20L, 6.20L, 6.22	W S SW SW SSW	54,	C. E. R. F. L.	46 50 12 00 10 20 30 40	6.34 6.33 6.34 6.34 6.33L, 6.35 6.34 6.36	SEEEEEEEEE	744	
50 12 00 10 20 13 00 14 00	6.54	SSSE NSSS	658		13 00 14 00 15 00 16 00 17 00 30	6.40 6.46 6.54 6.70 6.80 6.81	SW SW S Calm S S	761	
15 00 16 00 50 17 00 10 20 25 30 40 50 18 00	6.83 6.80 6.75 6.75 6.80H 6.80H 6.75H 6.80H	W SSAAAEAAAAAAAAAAAAA SS	668	F. L.	18 00 18 00 20 30 40 50 19 00	6.86H 6.81H 6.82H 6.84H 6.84H 6.86H 6.86 6.80 6.80 6.81	SW SW SW SW SW SW SW SW SW		F. L.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local	Reading		Anemom-		Local	Reading		Anemom-	
mean time	of tide staff	Wind direction	eter records	Observer	mean time	of tide staff	Wind direction	eter records	Observer
		July 23, 19	004				July 25, 19	04	
h $m$	Feet		Miles		h m	Feet		Miles	
19 20	6.79 6.70	SW SE	780	F. L.	4 00	6.08* 6.29*	Ë	553	C. E. R.
20 00 2I 00	6.50	N SE	700	F. L.	5 00 6 00	6.56*	Ë		
22 00 23 00	6.21 6.10	SE NE		A. V.	7 00 8 00	6.82 6.98*	E	628	
24 00	6.00	ΝĒ		A. V.	9 00	7.02H*	Ē	020	C.E.R.
		July 24,	1904		20 30	7.01H* 6.96*	нененененея 8		F. L.
0 10	5.93	NE		A. V.	10 00	6.91* 6.84*	E		
20	5.93	NE		Λ. γ.	11 05 12 00	6.60*	Ë	685	
30 40	5.96 5.94	NE NE			13 00 30	6.50* 6.50*	SE ESE		
50	5.98	NE NE	832		40	6.47*	ESE		
1 00 10	5.92L 5.95	NE			50 14 00	6.43* 6.40*	ESE ESE		
20 30	5.98 6.00	NE NE			10	6.40* 6.40*	ESE ESE		
2 00	6.03	NE			20 30	6.30*	ESE		
3 00 4 00	6.15 6.40	NE NE	932	A. V. C. E. R.	40 50	6.37L* 6.39*	ESE ESE		
5 00 6 00	6.65 6.85	NE NE	20		15 00	6.41*	ESE		
30	6.93	NE			10 20	6.41* 6.41*	ESE ESE		
7 00 30	7.05 7.18	E E			30 40	6.40* 6.43*	ESE ESE		
40	7.20H	E E			50	6.44*	ESE		
50 8 00	7.10 7.05	NE NE	47		16 00 17 00	6.50* 6.61*	ESE ESE	737	
9 05	7.00* 6.97*	NE NE	••	C. E. R.	18 00	6.77* 6.82*	ESE		
17 10 00	6.94*	NE		F. L.	19 00 20 00	6.90H*	ESE ESE	797	
II 00 I2 00	6.84* 6.69*	NE NE	210		10 20	6.90H* 6.81*	ESE ESE		
IO	6.62	NE NE NE			30	6.82*	ESE		
20 30	6.61* 6.61*	NE			40 50	6.82* 6.80*	ESE ESE		
40 50	6.60* 6.56*	NE NE			2I 00 22 00	6.80* 6.65	ESE ESE E		F. L. A. V.
13 00	6.60*	NE			23 <b>0</b> 0	6.43	E		
10 20	6.54* 6.54*	NE NE			24 00	6.10	ESE	808	A. V.
30 40	6.50L* 6.52L*	NE NE		į			July 26,	1904	
50 14 00	6.50L* 6.53	NE NE			I 00	6.04	ESE		A. V.
15 00 16 00	6.62 6.71*	NE NE			10 20	5.99 5. <b>9</b> 6	ESE ESE		
17 00	6.80	ENE			30	5.93	ESE ESE		
18 00 50	6.90 6.93*	ENE E		į	40 50	5.93 5.88	ESE		
19 00	6.o6H*	Ē	.O.m		2 00 10	5.89 5.85L	ESE ESE		
20 00 21 00	6.88* 6.72*	EEEEE	387	F. L.	20	5.87L	ESE	•	
22 00 23 00	6.48* 6.22*	E E		A. V.	30 40	5.85L 5.88	ESE ESE		
24 00	6.02*	Ē	413	A. V.	50	5.88	ESE ESE		
		July 25, 1	1904		3 00 10 4 00	5.87 5.90 5.95	ESE	911	A. V. C. E. R.
1 00	5.90L*	Ę		A. V.	5 00	6. 18	SE SE	3-1	C. <u>H</u>
2 00 3 00	5.92* 5.95*	E E E		A. V.	6 00 7 00	6.48 6.74	SE SE		C. E. R.

Tabulation of tidal observations at Cape Flora, Northbrook Island

							1	1.	
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		July 26, 19	004				July 27, 19	04	
h m	Feet		Miles		h m	Feet		Miles	
8 oo 9 oo	7.00 7.12	SE SE	956	C. E. R. C. E. R.	9 40 50	7.12 7.12	NE NE		F. L.
30	7.16* 7.20H	E		F. L.	10 00	7.14	NE NE		
35 40	7.20H	Ę			10 14	7.16 7.20H	NE		
50 10 00	7.15 7.15	Ë			20 30	7.14H 7.19H	NE NE		
11 00 10	7.12 7.00	SEEEEEEEEE ES			40 50	7.20H 7.10	NE NE		
I2 00 I3 I4	6.80 6.60	ESE ESE	27		II 00 I2 00	7.10 6.94	NE NE	212	
14 00	6.46 6.44	ESE ESE			I3 00 I4 00	6.70 6.50	NE NE		
20 30	6.40 6.40	ESE ESE			15 00 16 00	6.31 6.25L	NE NE	306	
40	6.38	ESE ESE			10 20	6.27L, 6.25L,	NE NE	300	
50 15 00	6.35 6.34	ESE ESE			30	6.25L	NE NE		
10 20	6.34 6.33	ESE			40 50	6.25L, 6.30	NE		
30 40	6.30L, 6.29L,	ESE ESE			17 00 18 00	6.30 6.41	NE E		
50 16 00	6.32L, 6.30L,	ESE ESE	72		19 00 20 00	6.54 6.74	ENE NE	366	
10 20	6.30L, 6.32	ESE ESE			2I 00 40	6.82 6.87H	NE NE		F. L. A. V.
17 00 18 00	6.38 6.50	SE SE			50 22 00	6.85H 6.84H	NE NE		
19 00 20 00	6.64 6.76	ESE Calm	110		10 23	6.86H 6.8o	NE NE		
2I 00 I0	6.8oH 6.81H	Calm Calm			30 40	6.81 6.81	NE NE		
20 30	6.81H 6.79H	Calm Calm			50 23 00	6.79 6.74	NE SW		
40	6.8oH	Calm Calm			24 00	6.51	ŝw	400	A. V.
50 22 00	6.77 6.70	Calm Calm		F. L. A. V.			July 28, 1	1904	
23 00 24 00	6. <b>50</b> 6.24	Calm	116	A. <b>v</b> .	1 00	6.12	sw		A. V.
		July 27,	1904		2 00 3 00	6.02 5.92	SW S		A. V.
1 00	6.03	Calm		A. V.	4 00 20	5.8o 5.75	W W	422	C. E. R.
2 00 30	5.83 5.79	Calm Calm			30 40	5.74 5.73L*	W W		
40 50	5.79 5.77	Calm Calm			50 5 05	5.74 5.76	W W		
3 00	5.80	Calm SE			20	5.80 5.85	w W		
10 20	5.79 5.74L	SE			5 00 5 00	6.02	NW		
30 40	5.76L 5.76L	SE Calm		A 37	7 00 8 00	6.35 6.65	NW N	453	C. E. R.
50 4 00	5.73L, 5.78 5.82	Calm Calm	124	A. V. C. E. R.	9 00 10 00	6.96 7.12	N W		F. L.
20 30	5.88	Calm W			10 20	7.13 7.17H*	W		
5 00 6 00	5.95 6.28	W W		İ	30 40	7. I7H* 7. I8H*	W W		
7 00 8 05	6.60 6.88	W NE	150	İ	50 11 00	7.18H 7.16H	W		
9 00	7.02 7.10	N NE	~	C. E. R. ·   F. L.	10 20	7.17H 7.18H	W W		F. L.
ან	7.10				~0	,	••		F. Lp.

Tabulation of tidal observations at Cape Flora, Northbrook Island

	i	1	1		1	1	1	T	
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
	·	July 28, 19	904				July 29, 19	104	
h m	Feet		Miles		h m	Feet		Miles	
11 30	7.12	W		F. L.	17 50	6.04L	W		F. L.
12 02 13 00	7.08 6.81	W NW	473		18 00	6.05 6.15	W W		
14 02	6.52	NW			20 00	6.35	W	703	
15 00 16 00	6.30 6.15	NW NW	506		2I 00 22 00	6.56 6.63	W W		F. L. A. V.
10 00	6.20	NW	200		23 00	6.8oH	W		41. 4.
40 50	6.11 6.10 <b>L</b> ,	$\mathbf{w}$			40 50	6.74 6.73	W W		
17 00	6.10L	W			24 00	6.71	W	713	A. V.
10 20	6. 10L, 6. 10L,	W W					July 30, 1	004	
30	6.13	W						904	
18 00	6.16 6.33	W W			I 00 2 00	6.49 6.12	W W		A. V.
20 00	6.50	$\mathbf{NW}$	545	E T	3 00	5.94	$\mathbf{w}$		A. V.
2I 00 22 00	6.70 6.80H	NW NW		F. L. A. V.	4 00 5 00	5.80 5.70	NW NW	720	C. E. R.
40	6.8oH 6.8ıH	NW NW			30	5.68	NW		
50 23 <b>0</b> 0	6.79 6.78	NW			40 50	5.66L 5.69	NW NW		
10 20	6. <i>7</i> 8 6.74	NW NW			6 00	5.75 5.80	NW NW		
30	6.75	NW			7 00	5.00	NW		
40 50	6.71 6.69	NW NW			8 oo 9 oo	6.20 6.54	NW NW	743	C. E. R.
24 00	6.64	NW	590	A. V.	10 04	6.90	W		F. L.
		July 29, 1	1004		11 00 50	6.96 7.00H	W Calm		
	6		- ) - 1	4 37	12 00	7.00H	Calm	752	
I 00 2 00	6.37 6.15	NNW NW		A. V	10	7.00H 7.04H	Calm Calm		
3 00	5.93 5.82	NW N	604	A. V.	20	7.00H	Calm Calm		
4 00 5 00	5.02 5.78L	N	627	C. E. R.	30 40	6.99 6.94	Calm		
10 20	5.76L 5.77L	N N			50 13 00	6.90 6.90	Calm Calm		
30	5.78L	N			14 00	6.65	E		
40 50	5.81 5.85	N N			15 00	6.34 6.10	NW NW	764	
6 00	5.90	N			17 04	5.91	W	704	
7 00 8 00	6.20 6.45	N N	662	C. E. R.	45 50	5.85 5.89	NW NW		
9 00	6.78	NE	002	F. L.	18 00	5.84L	NW		
II 00	7.05 7.20H	SE SE			10 20	5.83L, 5.83L,	NW NW		
10	7.20H	S			30	5.89 5.86	NW NW		
20 30	7.20H 7.20H	S			40 50	5.90	NW		
40	7.16	Ş			19 00 20 04	5.90 6.04	NW NW	786	
50 12 00	7.15 7.13	Š	677		21 00	6.25	NW	760	F. L.
13 15 14 00	6.87	ş			22 00 23 00	6.39 6.52H	NW NW		A. V.
15 00	6.67 6.36	SE 8888888888888 8			24 00	6.52H	ŇŴ	806	A. V.
16 00 50	6.20 6.09	SW SW	701				Tuly at -	004	
17 00	6.08	sw			D. C. C. C. C. C. C. C. C. C. C. C. C. C.		July 31, 1	904	
10 20	6.04L, 6.04L,	W W			0 I5 20	6.53H 6.52H	NW NW		A. V.
30	6.04L	W		T) T	30	6.51	NW		
40	6.04L	VV		F. L.	40	6.50	NW		A. V.

Tabulation of tidal observations at Cape Flora, Northbrook Island

								1	
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
-		July 31, 19	1004			Α	ugust I, I	004.	·
h m	Feet .	July 31, 15	Miles		h m	Feet	inguist 1, 1;	Miles	
0 50	6.49	NW	111 11125	A. V.	5 00	5.73	S	171 8003	C. E. R.
I 00 2 00	6.45 6.22	NW NW			6 00	5.65 5.62L	S		
3 00	5.91	NW	_	A. V.	30 40	5.62	Š		
4 00 10	5·74 5·72	NW NW	833	C. E. R.	50 7 00	5.66 5.67	SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS		
20	5.69	NW			10	5.70	SW	0.46	
30 40	5.67 5.67	NW NW			8 oo 9 oo	5.82 6.08	SW S	956	C. E. R.
50 5 00	5.65 5.64	NW NW			10 00	6.38 6.60	S S S SW		F. L.
10	5.58L	NW			12 00	6.79	sw	970	
20 30	5.58L, 5.59L,	NW NW			13 03 10	6.83 6.87H	SW SW		•
40	5.58L, 5.58L,	NW NW			20	6.86 6.80	SW SW		
50 6 00	5.59L	NW			30 40	6.8o	SW		
20 30	5.58L, 5.60	NW NW			50 14 00	6.78 6.79	SW SW		
40	5.65	NW			10	6.70	SW SW		
50 7 00	5.68 5.72	NW NW			15 00 16 00	6.50 6.24	SSW	8	
8 oo 9 oo	5.88 6.20	NW NW	849	C. E. R.	17 00 18 00	6.05 5.88	SSW SSW		
10 00	6.45	NW		F. L.	50	5.8o	SE		
II 00 I2 00	6.70 6.81H	NW SW	862		19 00	5.75L 5.78	SE SE		
10	6.82H 6.80H	SW SW			20 30	5.80 5.80	SE SE SE		
20 30	6.8oH	sw			40	5.70	SE		
40 50	6.8oH 6.8oH	SW SW			20 00	5.80 5.84	SE SE	44	
13 00	6.8oH	SW			21 00	6.00	SE SE	• • •	F. L.
10 14 00	6.71 6.54	SW SW			22 00 23 00	6.02 6.37	E,		A. V.
15 00	6.30 6.01	S	874		24 00	6.50	SE	91	A. V.
16 00 17 09	5.81	SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	0/4						
18 00	5. <i>7</i> 0 5. <i>7</i> 0	S SE					August 2,	1904	
20	5.60	SE			1 00	6.62	SE SE		A. V.
30 40	5.68 5.66L	SE			10 20	6.63H 6.62	SE		
50	5.68 5.70	SE SE			30	6.62* 6.60*	SE SE		
19 00 20 00	5.80	E	904	T) T	40 50	6.58*	SE SE E E		
2I 00 22 00	6.00 6.12	ESE		F. L. A. V.	2 00	6.54*‡ 6.54*‡	SE E		
23 00	6.34	ESE	007	A. V.	3 00	6.39*∓	E		A 3.7
24 00	6.43	S	927	Λ. γ.	4 00	6.25*‡ 6.11*‡	SE SE	147	A. V. C. E. R.
		August 1,	1904		6 00	5.99*‡ 5.95*‡	SE		
0 20	6.44H	S <b>S</b>		A. V.	20	5.94*Ŧ	SE		
30 1 00	6.44H 6.40*	SW SW			30 40	5.89L*‡ 5.95*‡	SE		
10	6.43*	sw			50	5.92*‡ 5.94*‡	SE SE SE SE		•
20 30	6.36* 6.33*	SW SW			7 00	5.96*	SE SE		
2 00	6.22	SW SE		A. V.	8 00	6.09* 6.29*	SE SE	223	C. E. R.
3 00 4 00	6.03 <b>5</b> .84	SES	947	C. E. R.	10 00	6.50	SE		F. L.
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Tabulation of tidal observations at Cape Flora, Northbrook Island

			·						
Local mean time	Reading of tide staff	Wind direction	Anemometer records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		August 2, 1	1904			A	Lugust 3, I	904	
h m	Feet		Miles		h m	Feet		Miles	
11 00	6.70	SE	212 000	F. L.	19 30	6.23	SE		F. L.
12 00	6.91	Ë	300		40	6.21 6.20	SE SE		
13 00 10	7.03* 7.06H*	Ë			20 00	6.20	SE	766	
20	7.01H*	Ĕ			10	6.13L	SE		
30 40	7.06H* 7.03*	Ë			20 30	6. 19 6. 20	SE		
50	7.00*	E			40	6.16	SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS		
14 00 15 00	6.98* 6.82*	E			21 00	6.16 6.20	SE		
16 00	6.53*	E	370		22 00	6.29	SE		F. L. A. V.
17 00 18 00	6.29* 6.15*	E			23 00 24 00	6.43 6.64	SE SE	774	A. V.
19 00	6.03*	Ë			·				
10 20	6.01* 5.98*	о Сепепепепепепепепепепепепе					August 4,	1904	
30	5.98*	Ę					A117		4 77
40 50	5.95L* 5.99*	Ë			I 00 2 00	6.80 6.90	SW SW		A. <b>V</b> .
20 00	6.01*	E	540	75° T	10	6.92H	$\mathbf{W}$		
2I 00 22 00	6. 10* 6. 14*	Ë		F. L. A. V.	20 30	6.91 6.91	W W		
23 00	6.43*	E		A. V.	40	6.80	W		
‡Snov	ving.				3 00	6.88 6.89	W W		
		A			10	6.8 <del>7</del> 6.80	W N	<b>79</b> 0	A. V. C. E. R.
		August 3,	1904		4 00 5 00	6.65	N	783	C. E. R.
1 00	6.80*	SE SE		A. <b>V</b> .	5 00 6 00 7 00	6.50 6.41*	N NW		
40 50	6.84H* 6.84*	SE			8 00	6.38L	NW	837	
2 00	6.82*	SE			9 00	6.38 6.50	N NW		C. E. R. F. L.
3 00	6.78* 6.72*	SE		A. V.	11 00	6.68	NW		F. 14.
4 00	6.56*	Ë	55 <b>7</b>	C. E. R.	12 00 13 10	6.80 7.00	NW NW	923	
5 oo 6 oo	6.42* 6.36 <u>*</u>	Ë			14 00	7.03H*	NW		
7 00	6.30L* 6.30*	Ę			15 00 10	7.03* 7.01*	NW NW		
20 30	6.34*	Ë			20	6.96*	NW		
40	6.36* 6.34*	E			30 40	6.95* 6.93*	NW NW		
8 <b>0</b> 0	6.38*	оооо Сененененененененененененененененененен	643		50	6.90*	W		
9 00	6.48*	Д Н2Н		C. E. R.	16 00 17 00	6.85* 6.68*	W W	11	
II 00	6.70* 6.92*	Ë		г. ц.	18 00	6.40*	W		
12 00	7.14* 7.28*	Ë	707		19 00 20 00	6.20* 6.01*	W W	70	
13 00 50	7.28*	Ē			10	5.95	W	70	
14 00	7.30H* 7.26*	Ę			20 24	5.94 5.92	W		
10 20	7.22*	Ē			30	5.95	W		
30	7.42*	Ę			36	5.90 5.98	W		
40 50	7.20† 7.18	Ē			40 46	5.90	W		
15 00	7.14*	E E E E E S S S S S S S S S S S S S S S	740		50	5.96* 5.90	W W		
16 <b>00</b> 17 00	6.91 6.65	SE	749		54 57	5.88*	N		
18 06	6.39	SE			21 00 10	5.88 5.84	W W		
19 <b>00</b> 10	6.30 6.29	ŠĒ		_	20	5.91	W		
20	6.25	SE		F. L.	24	5.81L,	W		F. L.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local   Reading direction   records   Observer     Local   Reading direction   records   Conserver     Local   Reading direction   records   Conserver   Reading direction   Reading dir	-	<u> </u>	1			1		Ī	1	Γ
h m   Feet	mean	of tide		eter	Observer	mean	of tide		eter	Observe <b>r</b>
h m   Feet			A							
21 30 5.88 W F. L. 90 06 6.30* SE C.E.R. 40 5.584 W S.S. 95 5.93 W F. L. 22 06 5.595 W F. L. 23 00 6.03 NW 115 A. V. 40 6.22* ESE SE SE SE SE SE SE SE SE SE SE SE SE	_		rugusi 4, i	• •				ugust 0, 1		
40 5.84 W 50 5.93 W 50 5.93 W 22 00 5.96 W 40 6.13 NW 115 A.V.  August 5, 1904  August 6, 1904			337	Miles	T) T	· L		CE.	Miles	CED
50 5.93 W 22 00 5.96 W AUGUST 5, 1904  August 5, 1904  August 5, 1904  A. V.   10 6.22*   ESE   ESE		5.84			г. ц.					F. L.
23 00 6.03 NW 115 A. V.    August 5, 1904  August 5, 1904  1 00 6.32 NW A. V.   1 00 6.32 NW A. V.   1 00 6.66 NW B.   1 00 6.69 NW   1 00 6.60 NW   1 00 6.68 NW   1 00 6.65 E   2 00 6.60 NE   2 00 0 6.60 NE   2 00 0 6.60 NE   2 00 0 6.60 NE   2 00 0 6.60 NE   2 00 0 6.60 NE   2 0 0 0 0 0 NE   2 0 0 0 0 0 NE   2 0 0 0 0 0 NE   2 0 0 0 0 0 NE   2 0 0 0 0 0 NE   2 0 0 0 0 0 NE   2 0 0 0 0 NE   2 0 0 0 0 0 NE   2 0 0 0		5.93			тт	1				
August 5, 1904  August 5, 1904  August 5, 1904  August 6, 1904  August 6, 1904  August 6, 1904  August 6, 1904  August 6, 1904  August 6, 1904  August 7, 1904  August 7, 1904  August 7, 1904  August 7, 1904  August 7, 1904  August 7, 1904  August 7, 1904  August 6, 1904		6.03	NW		A. V.		6.22*	ESE		
August 5, 1904	24 00	6.13	NW	115	A. V.					
1 00 6.32 NW A. V. 12 00 6.30 ESE 594 2 00 6.61 NW 30 6.44 NW 40 6.68 NW 40 6.68 NW 40 6.65 E E 129 A. V. 50 6.69 NE E 50 6.60 NE E 50			August 5,	1904		10	6.20*	ESE		
2 00 6.61 NW 3 00 6.74H NW 10 6.69 NW 40 6.69 NW 40 6.68 NW 50 6.69 NE 50 6.69 NE 50 6.60 NE 50 6.60 NE 50 6.60 NE 50 6.65 E 50 6.60 NE 50 6.65 E 50 6.60 NE 50 NE 50 6.60 NE 50 0.60 NE 50 0.60 NE 50 0.60 NE 50 0.60 NE 50 0.60 NE 50	T 00	6 22	NW		Δ 37	1			504	
15		6.61	NW		Λ. γ.	13 00	6.4 <b>0*</b>	ESE	334	
16 00   6.62H*   E   660							6.52* 6.62H*	ese E		
8 00 6.40 NE 20 6.40L NE 168 C. E. R. E. L. 20 6.05* NE 733 F. L. 21 00 6.68* ESE 12 00 6.06* NE 122 00 5.86* NE 122 00 6.06* NE 122 00 5.86* NE 122 00 6.06* NE 122 00 5.86* NE 122 00 6.06*		6.69	NW			16 oo	6.62H*	E	660	
8 00 6.40 NE 20 6.40L NE 168 C. E. R. E. L. 20 6.05* NE 733 F. L. 21 00 6.68* ESE 12 00 6.06* NE 122 00 5.86* NE 122 00 6.06* NE 122 00 5.86* NE 122 00 6.06* NE 122 00 5.86* NE 122 00 6.06*		6.72 6.68					6.62H*	Ë		
8 00 6.40 NE 20 6.40L NE 168 C. E. R. E. L. 20 6.05* NE 733 F. L. 21 00 6.68* ESE 12 00 6.06* NE 122 00 5.86* NE 122 00 6.06* NE 122 00 5.86* NE 122 00 6.06* NE 122 00 5.86* NE 122 00 6.06*	50	6.69	NW			30	6.58*	E		
8 00 6.40 NE 20 6.40L NE 168 C. E. R. E. L. 20 6.05* NE 733 F. L. 21 00 6.68* ESE 12 00 6.06* NE 122 00 5.86* NE 122 00 6.06* NE 122 00 5.86* NE 122 00 6.06* NE 122 00 5.86* NE 122 00 6.06*	4 00		E NE	129	A, V.		6.58*	Ë		
8 00 6.40 NE 20 6.40L NE 168 C. E. R. E. L. 20 6.05* NE 733 F. L. 21 00 6.68* ESE 12 00 6.06* NE 122 00 5.86* NE 122 00 6.06* NE 122 00 5.86* NE 122 00 6.06* NE 122 00 5.86* NE 122 00 6.06*	6 00	6.57	NE		O. 24. IC.	17 00	6.54*	Ë		
20 6.40L NE 168 0 00 6.40 NE NE 11 00 6.50 SE 11 10 00 6.50 SE 11 10 00 6.84 ESE 12 00 6.72* ESE 208 13 00 6.86* ESE 14 00 6.96H* ESE 15 00 6.96H* ESE 20 6.96H* ESE 20 6.90H* ESE 20 6.			NE NE				6.16*	NE		
10 00 6 50 SE F. L. 22 00 5.84* NE A. V.  11 00 6.68* ESE	20	6.40L	NE	168	a n n		6.05* 5.86*		733	TC T
11 00 6 .68* ESE			NE SE				5.84*	NE		A. V.
13 00 6.86*   ESE   260   30 5.76*   E   24 00 5.66*   E   816   A. V.     15 00 6.96H*   ESE   24 00 5.66*   E   816   A. V.     10 6.94H*   ESE   24 00 5.66*   E   816   A. V.     10 6.94H*   ESE   250   5.76*   E   816   A. V.     10 6.96H*   ESE   250   August 7, 1904     10 6.86*   ESE   250   2 00 6.06*   E   A. V.     16 00 6.86*   ESE   250   2 00 6.06*   E   A. V.     17 00 6.70*   ESE   30 00 6.16*   E   A. V.     18 00 6.46*   ESE   318   7 00 6.26*   SE   30 0 6.36*   SE     19 00 6.20   ESE   318   7 00 6.42*   SE   30     20 00 6.04   ESE   318   7 00 6.42*   SE   30     20 00 5.86*   E   20 6.10*   SE   30     20 00 5.86*   E   20 6.10*   SE   30     20 00 5.86*   E   40 0 A. V.     10 00 6.26*   SE   453   C. E. R.     10 00 6.28*   SE   453   C. E. R.     20 00 6.66H*   ESE   453   C. E. R.     20 00 6.66H*   SE   40 6.52*   E     20 00 6.66H*   SE   40 6.52*   E     20 00 6.66H*   SE   40 6.52*   E     20 00 6.88*   SE   453   C. E. R.     20 00 6.66H*   SE   40 6.52*   E     20 00 6.66H*   SE   40 6.52*   E     20 00 6.66H*   SE   40 6.52*   E     20 00 6.88*   SE   453   C. E. R.     20 00 6.88*   SE   453   C. E. R.     20 00 6.66H*   SE   E   E   E     20 00 6.66H*   SE	II 00	6.68*	ESE	. 0			5.58L*			
20 6.90H* ESE 30 6.96H* ESE 40 6.94* ESE 50 6.90* ESE 10 6.82* ESE 11 06.82* ESE 20 0 6.06* ESE 20 06.06* ESE 20 06.06* ESE 21 00 6.20* ESE 21 00 5.88* E 21 00 5.88* E 20 05.82* E 40 5.80* E 40 5.80* E 40 6.20* SE 50 6.20* SE 50 6.20*		6.72* 6.86*	ESE	208		1	5. <i>7</i> 0*	NE		
20 6.90H* ESE 30 6.96H* ESE 40 6.94* ESE 50 6.90* ESE 10 6.82* ESE 11 06.82* ESE 20 0 6.06* ESE 20 06.06* ESE 20 06.06* ESE 21 00 6.20* ESE 21 00 5.88* E 21 00 5.88* E 20 05.82* E 40 5.80* E 40 5.80* E 40 6.20* SE 50 6.20* SE 50 6.20*	14 00	6.96H*	ESE				5.72* 5.76*	E		
20 6.90H* ESE 30 6.90H* ESE 40 6.90* ESE 50 6.90* ESE 50 6.90* ESE 10 0 6.82* ESE 11 00 5.74* E 20 0 6.06* E 30 0 6.20* ESE 13 0 0 6.26* SE 20 0 6.04 ESE 20 0 6.04 ESE 20 0 6.04 ESE 20 0 6.04 ESE 20 0 6.04 ESE 20 0 6.04 ESE 20 0 6.20* ESE 20 0 6.32* SE 20 6.10* SE 2			ESE				5.66*	Ē	816	A. V.
40 6.94* ESE 50 6.90* ESE 10 6.86* ESE 260 2 00 6.06* E 10 6.82* ESE 300 6.16* E A. V. 17 00 6.70* ESE 400 6.26* SE 900 C. E. R. 18 00 6.46* ESE 318 7 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.44* SE 20 00 6.10* SE 20 00 6.10* SE 20 00 6.10* SE 20 00 6.20* SE 20	20	6.90H*	ESE					A		
50 6.90* ESE 260		6.96H*						August 7,	1904	
17 00 6.70* ESE	50	6.90*		262		1	5.74*	E		A. <b>V</b> .
17 00 6.70* ESE				200			0.00* 6.16*	E E		A. V.
19 00 6.20 ESE 20 00 6.04 ESE 318	17 00	6.70*	ESE			4 00	6.26*	SE	900	C. E. R.
20 00 6.04 ESE 318 21 00 5.82 E 80 6.42* SE 30 10 5.82 E 90 00 6.32* SE C.E.R. 20 5.82* E 10 00 6.20* SE F.L. 30 5.82* E 10 00 6.20* SE F.L. 22 00 5.84* E 20 6.10* SE 20 6.10			ESE			5 00	0.30* 6.44H*	SE SE		
30	20 00	6.04	ESE	318		7 00	6.42*	SE		
30		E 82	Ë				6.32*		30	C. E. R.
August 6, 1904  August 6, 1904  I 00 6.16* E A. V. 14 00 6.36* ESE 13 00 6.42* ESE 15 00 6.52* ESE 15 00 6.52* ESE 15 00 6.58* SE 453 C. E. R. 10 6.58* ENE 20 6.68H* E 30 6.58* E E 20 6.68H* E 30 6.52* E E E 20 6.68H* E 30 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.52* E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E E 20 6.52* E E E E E 20 6.52* E E E E E 20 6.52* E E E E E E E E E E E E E E E E E E E	20	5.82*	E			10 00	6.20*			
August 6, 1904  August 6, 1904  I 00 6.16* E A. V. 14 00 6.36* ESE 13 00 6.42* ESE 15 00 6.52* ESE 15 00 6.52* ESE 15 00 6.58* SE 453 C. E. R. 10 6.58* ENE 20 6.68H* E 30 6.58* E E 20 6.68H* E 30 6.52* E E E 20 6.68H* E 30 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.52* E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E E 20 6.52* E E E E E 20 6.52* E E E E E 20 6.52* E E E E E E E E E E E E E E E E E E E		5.80*	Ë				6.08L*	SE SE		
August 6, 1904  August 6, 1904  I 00 6.16* E A. V. 14 00 6.36* ESE 13 00 6.42* ESE 15 00 6.52* ESE 15 00 6.52* ESE 15 00 6.58* SE 453 C. E. R. 10 6.58* ENE 20 6.68H* E 30 6.58* E E 20 6.68H* E 30 6.52* E E E 20 6.68H* E 30 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.52* E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E E 20 6.52* E E E E E 20 6.52* E E E E E 20 6.52* E E E E E E E E E E E E E E E E E E E	50	5.86*	E			<b>k</b>	б. 10*	SE		
August 6, 1904  August 6, 1904  I 00 6.16* E A. V. 14 00 6.36* ESE 13 00 6.42* ESE 15 00 6.52* ESE 15 00 6.52* ESE 15 00 6.58* SE 453 C. E. R. 10 6.58* ENE 20 6.68H* E 30 6.58* E E 20 6.68H* E 30 6.52* E E E 20 6.68H* E 30 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.52* E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E E 20 6.52* E E E E E 20 6.52* E E E E E 20 6.52* E E E E E E E E E E E E E E E E E E E		5.86*	Ë		F. L.		6.14*	SE SE		
August 6, 1904  August 6, 1904  I 00 6.16* E A. V. 14 00 6.36* ESE 13 00 6.42* ESE 15 00 6.52* ESE 15 00 6.52* ESE 15 00 6.58* SE 453 C. E. R. 10 6.58* ENE 20 6.68H* E 30 6.58* E E 20 6.68H* E 30 6.52* E E E 20 6.68H* E 30 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.68H* E 40 6.52* E E E 20 6.52* E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E 20 6.52* E E E E E 20 6.52* E E E E E 20 6.52* E E E E E 20 6.52* E E E E E E E E E E E E E E E E E E E	23 00	5.86*	E	400	A. V.	50	6.20*	SE		
August 6, 1904  1 00 6.16* E A. V. 2 00 6.36* E 3 00 6.48* E A. V. 4 00 6.52* SE 453 C. E. R. 5 00 6.58* SE 6 00 6.58* SE 7 00 6.66H* SE	24 00	5.074	Ľ,	400	73. V.	11	6.12*		70	
1 00 6.16* E A. V. 14 00 6.36* ESE 15 00 6.42* ESE 15 00 6.42* ESE 15 00 6.52* SE 453 C. E. R. 5 00 6.58* SE 450 6.58* SE 40 6.52* E 40 6.52* E 50 6.66H* E 60 6.66H* SE 40 6.52* E 60 6.52* E 60 6.66H* SE 60 6.52* E 60 6.			August 6,	1904		20	6. 16*			
7 00 6.66H* SE 40 0.52* E	1 00	6.16*	E	Ċ	A. V.	14 00	6.36*	ESE		
7 00 6.66H* SE 40 0.52* E	2 00	6.36*	E		A. V		0.42 <del>*</del> 6.52*	ESE ESE	122	
7 00 6.66H* SE 40 0.52* E		6.52*	SE	453	C. E. R.	10	6.58*	ENE		
7 00 6.66H* SE 40 0.52* E	5 00	6.58*	SE			I I	0.08H* 6.58*	E .		
8 00 6.36* SE 530 ° C. E. R.    50 6.60* E. F. L.		6.66H*	SE	- Cr		40	6.52*	Ę	•	<b>74</b> -
		6.36*	SE	530	C. E. R.	50	0.00*	Ľ,		<b>г.</b> Ц.

Tabulation of tidal observations at Cape Flora, Northbrook Island

	,								
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
	I	August 7, 1	904			A	August 9, 1	904	
h m	Feet		Miles		h m	Feet		Miles	
17 00	6.52*	NE	111 0000	F. L.	0 50	5.74	SE		A. V.
18 00	6.46*	N			1 00	5.73	SE SSE SE SE		
19 00	6.30 <b>*</b> 6.14*	NE	007		2 00	5.77	SE		A. V.
20 00 2I 00	6.02*	SE ESE	201	F. L.	3 00 4 00	5.79 6.11*	SE	723	C. E. R.
22 00	5.86*	E		A. V.	5 00 6 00	6.31*	SE		
23 00 10	5.72* 5.72*	H.			7 00	6.59* 6.69*	SE		
20	5.70L*	Ē			15	6.68	SE SE		
30	5.78*	EEEEEE			20	6.68 6. <i>7</i> 0	SE		
40 50	5.72* 5.76*	Ë			30 40	6.8oH	SE		
24 00	5.78*	NE	286	A. V.	50	6.77	SE	- 40	
		August 8,	T004		8 00	6.74 6.71	SEE SEE SEE SEE	768	
	6*		1904	A 37	9 00	6.65 6.60	SE SE		C. E. R. F. L.
I 00 2 00	5. <i>7</i> 6* 5.80*	NE ENE		A. V.	11 00	6.45	SE		1. 4.
3 00	6.06*	E		A. V.	I2 00	6.34	SE	796	
4 00 5 00	6.30* 6.44*	E	387	C. E. R.	13 00	6.22 6.20	SE SE		
6 00	6.6 <b>0*</b>	Ë			20	6.20	SE		
7 00	6.66*	Ë			30 40	6.30 6.19	SE		
10 <b>2</b> 0	6. <b>70*</b> 6. <b>6</b> 4*	E			50	6.20	SE SE		
30	6.68*	Ē			55	6.17L	SE SE		
<b>40</b> 50	6. <b>82*</b> 6.84*	<b>田田田田田田田田田</b> 田田			14 00 10	6.20 6.20	SE		
8 00	6.86H*	Ē	407		20	6.24	SE		
35	6.86* 6. <b>6</b> 6*	NE			30 40	6.24 6.21	SE SSE		
40 50	6. <b>70</b> *	N N			50	6.21	SSE		
9 00	6.58	NW		C. E. R.	15 00 16 00	6.29 6.32	SSE SSE	821	
10 00	6.50 6.50	NW NW		F. L.	17 01	6.41	SSE	021	
12 00	6.4 <b>0</b> L	NW	498		18 02	6.52	SSE		
50	6.41L 6.41L	NW NW			19 05 40	6.57 6.60H	Calm Calm		
13 00 10	6.40L	NW			50	6.5 <b>8H</b>	Calm		
14 00	6.40L	NW			20 00 I0	6.60H 6.58	Calm Calm	849	
15 00 16 00	6.52 6.68*	ENE ENE	546		20	6.52	Calm		
17 00	6.76H*	ENE	54-		30	6.56	Calm Calm		
18 00	6.72 <b>*</b> 6.72 <b>*</b>	E ENE			40 50	6.45 6.44	Calm		
19 00	6.72*	ENE			21 00	6.44	Calm		F. <u>L</u> .
20	6. <b>70*</b> 6.66*	ENE ENE			22 00 23 00	6.20 5.90	Calm SE		A. V.
30 40	6.62*	ENE			24 00	5.70	SE	891	A. V.
50	6.62*	ENE			1		A		
20 00 21 00	6.58* 6.34*	ENE NE		F. L.	ĮI		August 10	, 1904	
22 00	6.14*	E		A. V.	0 10	5.53	SE SE		A. V.
23 00 24 00	5.90 5.78	E SE	622	A. V.	I 00	5.52 5.53	SE SE		
-4 00	5.70			Y.	20	5.50	SE SE SE		
		August 9	, 1904		30 40	5.50 5.48	SE		
0 10	5.72L	SE SE		A. V.	50	5.48 5.43L	SE SE		
20		SE SE			2 00	5.44	SE SE		
<b>30</b> 40		SE		A. V.	10 20	5.46 5.50	SE SE		A. V.
•					**	- 5			

Tabulation of tidal observations at Cape Flora, Northbrook Island

	1	i	1 1		11		1	1	
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
	Α.								
	А	ugust 10,	• •			A	ugust II, I	904	
h m	Feet	~	Miles	'	h m	Feet		Miles	
2 30	5.48	se se		A. V.	7 00	6.04*	SE.	<b>~</b> 0	C. E. R.
40 50	5.47 5.48	SE			8 00	6.36* 6.56*	E E	58	C. E. R. F. L.
3 00	5-47	SE		A. V.	30	6.62H*	ENE		2. 4.
4 00	5.64	Calm	866	C. E. R.	40	6.62*	ENE		
5 00 6 00	5.92 6.22	E Calm			50 10 00	6.54* 6.52*	ENE ENE		
7 00	6.42	Calm			10	6.50*	ENE		
8 00	6.58	SE	888	C P D	20	6.50*	ENE		
9 00	6.65H 6.56	SE SE		C. E. R. F. L.	30 40	6.48* 6.52*	ENE ENE		
11 00	6.41	SE		2. 24.	50	6.46*	ENE		
12 00	6.20	SSE	924		11 00	6.36*	ENE		
13 06 30	6.01 5.92	SSE SSE			12 00 13 00	6.12* 5.92*	E E	156	
40	5.94	SSE			14 00	5.74*	Ĕ		
50	5.86	SSE			15 00	5.60*	Ë		
14 00 10	5.88 5.88	SSE SSE			10 20	5.56* 5.52*	E.		
20	5.82	SSE			30	5.54*	$\vec{\mathbf{E}}$		
25	5.80	SSE			40	5.50L*	Ë		
30 40	5.79 5.80	SSE SE			16 00	5.58* 5.54*	E.	286	
48	5.74L	ŠĒ			17 00	5.72* 5.88*	, Ē,		
50	5.79L	SE			18 00	5.88*	Ē		
57 15 00	5.74L, 5.79L,	SE SE SE SE SE NE			19 00 20 00	6.12 <b>*</b> 6.30*	EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE	414	
05	5.74L	SE			21 00	6.42*	ESE	,	F. L.
10	5.80	SE			22 00	6.46H* 6.38*	E		A. V.
20 30	5.81 5.83	NE NE			10 20	6.20*	Ë		
40	5.80	NE			30	6.30*	Ē		
50	5.85	NE NE			40	6.28* 6.24*	E		
16 00 17 00	5.89 5.96	NE	955		23 00	6.22*	EEEEEEE		
18 00	6.10	NE			24 00	5.92*	E	505	A. V.
19 00	6.22	Calm Calm	272				A		
20 00 21 00	6.27 6.32H	Calm	959		ľ		August 12,	, 1904	
10	6.30	Calm			1 00	5.62*	É		A. V.
20	6.23	Calm Calm			2 00	5.36*	E E		
30 40	6.30 · 6.22	Calm			3 00	5.04*	E SE		A. V. C. E. R.
50	6.20	Calm			4 00	5.01 5.03	SE	571	C. E. R.
22 00	6.20	NE		F. L.	20	5.00L	SE		
23 00 24 00	5.83 5.55	NW NW	970	A. V. A. V.	30	5.08	SE		
24 00	5.55		<i>71</i> -		40 50	5.10 5.16	SE		
		August II	, 1904		5 00	5.25	SOSSOSSOSSOSSOSSOSSOSSOSSOSSOSSOSSOSSOS		
T 00	F 07	NW		A. V.	7 00	5.56* 5.90*	SE		
1 00 2 00	5. <i>27</i> 5.07	NE			8 00	6.16*	SE	614	
IO	5.04_	NE			9 00	6.46*	SE		C. E. R. F. L.
20	5.03L	NE			10 00	6.60H 6.55H	SE		F. L.
30 40	5.08 5.12	NE			20	6.60H	SE		
50	5.16	NE			30	6.60H	SE		
3 00	5.10	NE		A. V.	40 50	6.55 6.53	Ë		
4 00	5.14 5.20	SE	980	Ć. E. R.	11 00	6.50	NE		
5 00	5.45	NEEEEEEEEEEEEEE	-		12 00	6.30	NE Calm	636	TŽ T
6 00	5.70	SE		C. E. R.	13 03	5.90	Caim		F. L.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
	A	ugust 12, 1	1904			A	ugust 13, 1	904	
h $m$	Feet		Miles		h m	Feet		Miles	
14 00 15 00	5.70 5.40	N SE		F. L.	23 00 30	5.99 6.09	Calm SW		A. V.
16 00	5.31	SE	667		40	6.12H	SW		
10 20	5.33 5.30L	SE			50 24 00	6.11 6.08	SW SW	28	A. V.
30 40	5.37 5.31	se see see see see					August 14,	1004	
50 17 00	5.39 5.41	SE SE						1904	A. V.
10	5.34	SE			0 10	6.05 6.03	Calm Calm		Λ. ν.
20 18 00	5.4I 5.52	SE SE			I 00 2 00	5.81 5.43	SW SW		•
19 00 20 00	5.76* 6.08	SE N	709		3 00 4 00	5.22 4.95	SE W	56	A. V. C. E. R.
2I 00 22 00	6.25 6.30	N E		F. L. A. V.	5 00	4.85L 4.88L	Calm	Je	<b>4. 4. 4.</b>
23 00	6.40H	NW Calm			10 20	4.85L	Calm Calm		
10 20	6.34 6.34	SE			30 40	4.87 4.90	Calm Calm		
30 40	6.30 6.29	SE SE			6 c5	5.00 5.18	Calm <b>E</b>		
24 00	6.25	Calm	778	A. V.	8 00	5.52 5.90	SE SE	62	C. E. R.
		August 13,	1904		10 00	6.20 6.38H*	SE SE		F. L.
1 00	5.83	ESE		A. V.	20	6.38*	SE	740	
2 00 3 00	5·55 5·24*	ESE E	,	A. V.	12 00 10	6.36* 6.30*	SE SE	139	
4 00 5 00	5.15* 5.14L*	E E	800	C. E. R.	13 00 14 00	6. 16* 5.70*	SE SE		
6 00	5 37*	Ē			15 00 16 08	5.31 5.04	SE SE	196	
7 00 8 00	5.64* 5.98 6.28	енненненнен	883		17 00	4.80	SE SE	190	
9 00	6.28 6.34	E			10 20	4·75 4·74	SE		
20 30	6.36 6.40	E E			30 40	4·73 4·70	SE SE		
40	6.43	E		C. E.R.	18 oo	4.68L, 4.70	SE SE		
50 10 00	6.50 6.53*	E		F. L.	10 20	4.71	SE SE		
10 11	6.58* 6.60H*	SSE		:	19 00	4.79 4.82	SE		
20 30	6.58 <b>*</b> 6.53 <b>*</b>	SSE SSE			20 00 2I 00	5.08 5.40	SE SE	231	
40 50	6.52* 6.50*	SSE			22 00 23 00	5.70 5.99	SE Calm		F. L. A. V.
12 00	6.48* 6.16*	SSE	930		24 00	6.06	NW	251	A. V.
13 00 14 10	5.66*	SW				· .	August 15,	1904	
15 00 16 00	5.38* 5.23*	SW SW	963		0 30	6.06_	SE		A. V.
17 00 10	5.08* 5.04*	SW SW			40 50	6.07H 6.03	SE SE	•	
20 30	5.04* 5.02*	SW SW			1 00	5.98 5.97	SE S		
40	4.92L	sw			20	5.93	Calm		
18 00	5.09* 5.12*	sw sw			2 00 3 00	5·74 5·35	Calm ESE		A. V.
19 00 20 00	5.30 5.60	W			4 IO 5 OO	5.05 4.92	Calm Calm	252	C. E. R.
2I 00 22 00	5.90 5.97	WSW SW		F. L. A. V.	10 20	4.90 4.90	Calm Calm	<i>:</i>	C. E. R.
	5.71			1		7.20	~~~~		O. 14. IX.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
<u> </u>	P	August 15,	1904			A	ugust 16,	1904	
h m	Feet		Miles		h m	Feet		Miles	
5 30	4.88	Calm	101 000 3	C. E. R.	9 00	5.48	sw	1/1 /// 3	C. E. R.
40	4.87	Calm			10 00	5.90	NE		F. L.
50 6 00	4.82I, 4.90	Calm Calm			II 00 I2 00	6.20 6.38	NE Calm		
10	4.90	Calm			13 00	6.43	Calm		
20 30	4.92 4.92	E			30 40	6.45H 6.41	Calm Calm		
40	4.95	E E E E E Calm			50	6.36	NE NE		
50 7 00	4.97 5.00	Ë			14 00 15 00	6.33 6.10	NE NE		
8 00	5.28	E	264	C T D	16 11	5.60	NÉ NÉ	371	
9 00 10 00	5.60 6.00	5 E		C. E. R. F. L.	17 00	5.30 5.10	NE		
11 00	6.25	SE SE	atra		19 08	4.94 4.90L	Calm Calm		
I2 00 I0	6.40 6.40	SE	272		20	4.92L	NE		
20	6.40 6.41H	SE			30 40	4.90L, 4.91	NE NE		
30 40	6.36	SE SE SE			50	4.97	NE		
50 13 00	6.34† 6.30 <b>†</b>	SE SE			20 00	4.94 5.06	NE NE	377	
14 00	6.04†	SE			21 00	5.12	Calm		F. L.
15 00 16 03	5.65† 5.26†	SE SE	322		22 00 23 00	5.40 5.76	Calm Calm		A. V.
17 00	5.04	ŠĒ	J==		24 00	ő.02	N	381	A. V.
18 00	4.85 4.80	SEEEEEEEEEEEE					August 17	1904	
20	4.80	SE SE SE			}				
30 40	4.81 4.77	SE			1 00	6. 15 6. 24	NE Calm		A. V.
50 53	4·79 4·75L	SE SE			10	6.28H	NE		,
19 00	4.80	SE SE			30	6.25 6.22	NE NE		
10 20 00	4.80 4.95	SE Calm	346		40	6.18	Calm Calm		
21 00	5.22	SE SE	340	** *	3 00	6.11 6.12	NE		A. V.
22 00 23 00	5.49 5. <b>8</b> 5	Calm		F. L. A. V.	4 00 5 00	5.89 5.62	\$ <b>\$</b>	392	C. E. R.
24 00	6.02	SW	353	A. V.	5 00 6 00	5.55	Calm		
		August 1	б, 1904		45 50	5.42 5.40L	S Calm		
1 00	6. 10	Calm		A. V.	7 00	5.42 5.42	Calm Calm		
100	6.10	NW		11, 11	20	5.46	Calm		
20 30	6.08 6.07	NW Calm			30	5.41 5.41	Calm Calm		
40	6.11H	Calm			50	5.44	Calm		
50 2 00	6.03 6.02	Calm Calm			8 00	5.50 5.60	Calm S	<b>397</b>	C. E. R.
10	5.97	Calm		A 37	10 00	5.90	S S SSE		F. L.
3 00 4 00	5.70 5.45	Calm Calm	356	A. V. C. E. R.	II 00 I2 00	6.15 6.35	CCH	411	
5 00	5.30	SE	00		13 00	6.52	Ş		
6 oo 45	5.15 5.10	Calm Calm			30 40	6.54 6.59H	S S S S S Calm		
7 00	5.10	Calm			50	6.53 6.51	S		
10 20	4.97L 4.98	SE Calm			14 00	6.50	Calm		
30	5.08	Calm			20 30	6.50 6.45	Calm Calm		
40 50	5.12 5.18	Calm SE			40	6.44	Calm		<b></b> _
8 00	5.24	Calm	360	C. E. R.	50	6.41	Calm		F. L.

Tabulation of tidal observations at Cape Flora, Northbrook Island

								<del> </del>	
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom-	Observer
	A	ugust 17,	1904			A	ugust 18, 1	904	
h m	Feet		Miles		,	Et and		1//:1	
		e	wws	тэ т	h m	Feet	an	Miles	T .
15 00 16 00	6.36 6.10	ของจอง	415	F. L.	2I IO 20	5.32 5.31L	SE SE		F. L.
17 00	5.75	š	4*3		30	5.33	SE		
18 00	5.49	S			40	5.36	SE		
19 00	5.29	S			50	5.39	SE		
50 20 00	5.18 5.19	Calm	401		22 00	5.40	SE Calm		F. L. A. V.
10	5.18	Calm	<del>42</del> 5		23 00 24 00	5.52 5.71	Calm ESE	536	A. V. A. V.
20	5.17L	Calm			24 00	3.71	404	5.50	11
30	5.20	Calm					August 19,	1904	
40 50	5.19 5.20	Calm Calm					-	- •	
21 00	5.20	Calm			00 1	6.01	Calm		A. V.
10	5.20	Calm			2 00 3 00	6.19 6.32	Calm ESE		A. V.
20	5.25	Calm			4 00	6.35	NE	541	C. E. R.
22 00 23 00	5.35 5.62	SSE Calm		F. L. A. V.	30	6.34	Calm	٠.	
24 00	5.02	SE	430	A. V. A. V.	40	6.36H	Calm		
-4 00	3.07	224	430	11	50 5 00	6.34 6.30	Calm Calm		
		August 18,	1904		10	6.28	Calm		•
		***	- •		6 00	6.12	Calm		
I 00	6.18	W Calm		A. V.	7 00	6.00	NE Color		
2 00 30	6.30 6.34	W			8 oo 9 oo	5.90 5.80	Calm Calm	543	
40	6.33	Calm			20	5.82	Calm		
50	6.36H	W		-	30	5.78L	Calm		
3 00	6.36	Calm Calm			40	5.80	Calm		
10 20	6.30 6.32	Calm			50 10 00	5.83 5.80	Calm Calm		
30	6.31	Calm			10 00	5.84	Calm		C. E. R.
40	6.29	Calm		A. V.	11 00	5.92	E		F. L.
4 15	6.18	SE	439	C. E. R.	12 00	6.10	E	551	
5 00 6 00	6.05 5.88	Calm SE			13 00 14 00	6.23 6.34	NE ; NE		
7 00	5.75	SE			15 00	6.40			
40	5.66L	SE		ľ	10	6.40	Ē		
50	5.70	Calm	6		20	6.42H	E		
8 00	5. <b>70</b> 5.68	E E	446	i	30 40	6.41 б.40	뜌		
20	5.72	Calm			50	6.39	EEEEEEE		
30	5.71	Calm			16 00	6.38	E	560	
40	5.70 5.72	E Calm			10 17 00	6.38 6.22	SE		
50 9 00	5.70	Calm			18 00	6.00	SE SE		
10	5.78	E		C. E. R.	19 00	5.73	SE		
10 00	5.90	SE SE		F. L.	20 00	5.58	SE	598	
11 00 12 00	6.10 6.28	SE	477		2I 00 22 00	5·45 5·35*	臣	•	F. L.
13 00	6.45	SE NE	4//		30	5.30L*	Ē		A. V.
14 07	6.59	NE			40	5.36*	Ē		
20	6.60	NE			50	5.34*	EEEEEEEEE		
30 40	6.60H 6.60	NE NE			23 00 10	5.36* 5.39*	臣		
<b>50</b>	6.59	NE			20	5.42*	Ë		
15 00	6.54	SE SE			30	5·44*	Ē		
16 00	6.40	SE	500		24 00	5.48*	ESE	662	A. V.
17 00 18 00	6.12 5.93	SE Calm				,	Annuct on	T00.4	
19 00	5.60	SE		]]		1	August 20,	1904	
20 00	5.44	SE	516		I 00	5.72*	ESE		A. V.
50 31 00	5.32	SE SE		F. L.	2 00	5.93*	ESE		
21 00	5.32	OE4		ғ. Ц. J	3 00	6.05*	SE		A. <b>V</b> .

Tabulation of tidal observations at Cape Flora, Northbrook Island

		-							
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
	A	ugust 20,	1904			A	ugust 21, 1	904	
h m	Feet		Miles		h m	Feet		Miles	
4 00	6. 10*	SE		C. E. R.	17 00	6.22*	NE	mues	F. L.
5 00	6.20H*	SE	720	C. E. K.	18 00	6.26H*	NE		г. ц.
6 00	6.22*	SE		Į.	19 00	6.16*	NE	324	
7 00	6. 16*	SE	_	ľ	20 00	5.96*	NE	0.	F. L.
8 00	6.02*	SE	800		21 00	5.76*	NE		A. V.
9 00	5.94*	SSS 1		C. E. R. F. L.	22 00	5.62*	NW NW		
10 00 10	5.90L* 5.90L*	뜌		F. L.	23 00 24 00	5·52* 5·44*	NW	390	A. V.
20	5.90L*	Ē		ì	24 00	3.44	14 44	390	21. V.
30	5.94L*	E					August 22,	1904	
40	5.93L*	Ē					,		
50	5.90L*	E			1 00	5.42L*	NW		A. V.
II 00 I2 00	5.94* 6.00*	문	870		2 00	5.50*	NW		A 37
13 00	6.10*	Ę	870		3 00 4 00	5.64 <b>*</b> 5.88 <b>*</b>	NW NW	436	A. V. C. E. R.
14 00	6.20*	$\overline{\mathbf{E}}$				6. 10*	NW	430	C. L. K.
15 00	6.30*	E			5 00 6 00	6.24*	NW		
16 00	6.32*	Ę	946	1	7 00	6.30*	NW		
17 00	6.34H* 6.28*	F.		İ	8 00	6.34*	E	486	
18 00	6.16*	É			20	6.36H* 6.32*	NE NE		
19 00	5.96*	Ĕ			30 40	6.36*	NE		
20 00	5.74*	E	14		50	6.28	NE		
2I 00	5.54*	Ē		F. L.	9 00	6.22	NE		
22 00	5.44*	莊		A. V.	10	6.20*	NE		C.E.R.
23 00 10	5·34* 5·34*	Ë			10 00	6.10 6.00	NE NW		F. L.
20	5.34	Ĕ			12 00	5.90	SE	533	
30	5.32L*	$\overline{\mathbf{E}}$			13 00	5.78*	ŠĒ	3.7.7	
40	5.34*	E			14 00	5.75	W		
50	5.36*	E	۷.	A 37	10	5.74	w		
24 00	5.36*	NE	64	A. V.	20	5.72L	W		
		August 21	7004		30 40	5.80 5.80	W		
		riugust 21	, 1904		50	5.80	w		
1 00	5.46*	NÉ		A. V.	15 00	5.82	W		
2 00	5.56*	NE			16 00	5.90	W	556	
3 00	5.82	E SE		A. V.	17 00	6.02 6.08H	NW W		
4 00	6.00	SE	117	C. E. R.	18 00	6.08*	NE		
5 00	6.12 6.26H*	SE			20 00	6.06*	NE	605	
30	6.24H*	SE NE NE		i	21 04	5.88*	NE		F. L.
40	6.26H*	NE			22 00	5.68*	NE		A, V.
50	6.24H*	NE			23 00	5.50*	NW	Page 1	A 37
7 00	6.26H*	NE			24 00	5.38*	NE	708	A. V.
10	6.22* 6.20*	NE NE					August 23,	1004	
8 00	6.14*	NE	175				g	->	
9 00	6.04*	NE	-73	C. E. R.	1 00	5.22L*	NE		A. V.
10 00	5.92*	ESE		F. L.	2 00	5.26*	NE		A 77
11 00	5.82*	ESE			3 00	5.36*	NW W	703	A. V. C. E. R.
12 00	5.8oL*	ESE	216		4 00 5 00	5.52* 5.72*	w	793	C. 12. R.
10	5.80	् म			6 00	6.02*	ŵ		
20	5.82 5.83	Ē			7 00	6.12*	sw		
30 40	5.82	$\widetilde{\mathbf{E}}$			8 00	6.24*	sw	810	
	5.8r	E,			10	6.26H*	SW		
50	5.81	Ē			20	6.22*	SW SW		
50 13 00		E			30	6.24 <b>*</b> 6.24 <b>*</b>	SW		
13 00	5.84	₩.			4/1				
13 00 10 14 00	5.84 5.92	E NF			40 50	6.22*	sw		
13 00	5.84	PEEEEE SEEEEEEEENN NN NEEES SEEEEEEEENN	265	F. L.	50 9 00	6.22* 6.20*	sw sw		C. E. R.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer
	Α	August 23,	1004		ĺ	A	ugust 24,	1004	
,		gast 20,			,				
h m 9 10	Feet 6.16	sw	Miles	C. E. R.	h m 16 30	Feet 5.50	SE	Miles	F. L.
20	6.18*	sw		F. L.	40	5 · 54	SE SE		4.
30 40	6.14 6.14	SW SW			17 00	5.60 5.60	SE SE		
50	6.12	SW			18 00	5.72	SE		
10 00 11 00	6.09 5.90	SW SW			19 00	5.90 6.00	SE W	932	
12.00	5.79	SW	0		21 00	6. 10H	W	50	F. L.
13 00 14 00	5.60 5.50	SE SE	825		22 00 23 00	6.01 5. <b>8</b> 1	Calm <b>Calm</b>		A. V.
15 00	5.50_	SE			24 00	5.56	NE	938	A. V.
10 20	5.42L, 5.52	SE SE					August 25,	1004	
30	5.60 5.60	SE SE						-3-4	A 37
40 50	5.60	SE	_		1 00	5.40 5.22	NE NNW		· A. V.
16 00 17 00	5.61 5.72	SE SE SE	8 <sub>5</sub> 0		30	5.15_	Calm		
18 00	5.80	SE			40 50	5.12L 5.18	Calm SW		
19 00 20 00	5.90 6.00H	SE SE			3 00	5. 16 5. 15	W Calm		
21 00	5.90	SE	885	73 T	20	5.20	Calm		
10 22 00	5.90 5.71	SE SE		F. L. A. V.	30 4 00	5.2I 5.27	Calm Calm	943	A. V. C. E. R.
23 00	5.50	Calm Calm	003	A. V.	5 00	5.45	Calm	270	0. 4. 2
24 00	5.35	Caim	903	A, v.	7 00	5.67 5.9 <b>●</b>	Calm Calm		
		August 24	, 1904		8 00	6.22	E Calm	944	,
1 00	5.27	Calm		A. V.	30 40	6.30 6.34	E		
2 00 10	5.00 4.98L	SSE SSE			9 00	6.38 6.39	E		
20	5.08	SSE SSE			10	6.38	Ē		
30 40	5.07 5.08	SSE			30	б.40 б.42	E E		
50 3 00	5.10 5.11	Calm SSE		A. V.	40	6. 13H	E E E E E E E E Calm		
4 00	5.20	SE	908	C. E. R.	10 00	6.42 6.38	Calm		•
5 oo 6 oo	5.50 5.74	Calm SE			10	6.40 6.38	Calm Calm		
7 00	6.00	Calm			30	6.36	Calm		
8 oo 9. oo	6.18 6.30H	SE Calm	911	C. E. R.	11 00	6.32 6.32	Calm S		C. E. R. F. L.
10 00	6.28	Calm	-	F. L.	12 00	6.20	Calm	952	1. 14.
10 20	6.22 6.23 6.18	Calm SE SE			13 00	5.90 5.60	S S S Calm		
30 40		.SE Calm			30	5.54	S Calar		
- 50	6.11	SW SW			40 50	5.60 5.60	Calm		
II 00 I2-10	6.09 5.80	SW W	915		15 00	5.60	Calm		
13 00	5.70	Š	913		20	5·55 5·60_	S		
14 00 15 07	5.50 5.50	S			26 30	5.54L, 5.5 <b>5</b>	S		
30	5.47	Š	,		40	5.61	Š		
40 42		S			16 oo	<b>5</b> .60 5.65	S S	962	
50	5.49	S			17 30	5.70	ğ	902	
53 16 00	5.41 <b>L</b> 5.45	W S S S S S S S S S S S S S	923		18 00	5.80 5.94	Calm S S S S S S S Calm		
10 20		Calm Calm		F. L.	20 00 2I 00	6.12	Calm	965	
20	3.50	Cailli		г. Ц.	D 21 00	6.30	Calm		F. L.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
	A	Lugust 25,	1904				August 27,	1904	
h m	Feet	-	Miles		h m	Feet	_	Miles	
2I IO 20 30 40 44	6.30 6.35 6.33 6.39H 6.39	Calm Calm Calm Calm Calm		F. L.	1 00 2 00 3 00 4 00 10	5.94 5.72 5.54* 5.46* 5.44L* 5.46L*	EEEEE	400	A. V. A. V. C. E. R.
50 22 00 10 20 23 00	6.31 6.30 6.28 6.26 6.22	Calm Calm Calm Calm Calm		F. L. A. V.	20 30 40 50 5 00	5.46L* 5.44L* 5.48* 5.50*	E E E E		
24 00	6.00	SSE	968	A. V.	6 00 7 00	5.52* 5.72* 5.90*	E E		
	,	August 26,	1904		7 00 8 00 9 00	6.24 <b>*</b> 6.5 <b>0</b> *	Ē	499	C. E. R.
I 00 2 00 3 00 4 00	5·53 5·47 5·40	SE W NW NW	977	A. V. A. V. C. E. R.	10 00 11 00 10 20 30	6.72* 6.82H* 6.80* 6.76* 6.72*	HEEEE		F. L.
10 20 30 40 50	5.42 5.42 5.38L, 5.41 5.45	NW NW NW NW			40 50 12 00 13 00	6.72* 6.70* 6.62 6.40†	EEEE!	587	
5 00 6 00 7 00 8 00 9 00	5.50 5.82 6.10 6.33 6.50	NW Calm NW E E	); 9	C. E. R.	14 00 15 00 16 00 10 20 30	6.06† 5.80† 5.65† 5.64† 5.62† 5.60L†	ЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕЕ		
50 10 00 20 30 40 50	6.65 6.70H 6.68 6.65 6.60 6.61	SE ESE ESE ESE ESE		F. L.	40 50 17 00 10 20	5.60L† 5.61L† 5.60L† 5.58L† 5.60L*	EEEEE		
11 00 10 12 00 13 00	6.61 6.60 6.42 6.20	ESE	64		30 40 50 18 00 19 00	5.62* 5.62* 5.64* 5.66* 5.82*	PEEE		
14 00 15 00 16 00 10 20 30 40	5.95 5.80 5.64L, 5.66L, 5.68L	EEEEEEEEEE	145		20 00 2I 00 22 00 23 00 I0 20	6.00* 6.22* 6.38 6.40 6.43H 6.43	EEEEEE	709	F. L. A. V.
50 17 00 10 20	5.66L 5.64L 5.64L 5.70	EEEE			30 40 50 24 00	6.40 6.38 6.34 6.31	EEEEEE	755	A. V.
30 40	5.71 5.75	E			1		August 28,	1904	
18 00	5.76 6.00	E	228		I 00 2 00	6.03 5.80	E F		A. V.
20 00 21 00 22 00 23 00 10	6.14 6.22 6.44H 6.41 6.37	нененененененененен <b>е</b>	1	F. L. A. V.	3 00 4 09 5 00 10	5.64 5.50 5.42 5.39L	E E E E E E E E E E E E E E E E E E E	780	A. V. C. E. R.
20 30 24 00	6.33 6.32 6.21	E E E	308	A. V.	20 40 50	5.42 5.40 5.44	E E E	,	C. E. R.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
	A	ugust 28,	1904			A	ugust 29, 1	1904	
h m 6 00 7 00	Feet 5 · 49 5 · 75	E E	Miles	C. E. R.	h m 14 00 15 00	Feet 6.10 5.73	SE SE	Miles	F. L.
8 00 9 00 10 00 11 00 50 12 00	6.02 6.25 6.53 6.62* 6.62* 6.64H* 6.60*	EEEEEEEE Sc	809 848	C. E. R. F. L.	16 00 17 00 10 20 30 40	5.51 5.32 5.31 5.31 5.30L, 5.30L,	SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	125	
10 20 30 13 00 14 00 15 00 16 00	6.58* 6.54* 6.40* 6.06* 5.75 5.55	GEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE	899		18 00 10 20 30 19 14 20 00	5.30L, 5.30L, 5.30L, 5.30L, 5.32 5.38 5.52	SSEEEEEEEEEE	167	
17 00 10 20	5.33L, 5.40 5.38	SE SE			2I ,00 22 00	5. <b>7</b> 2 5.93	SE SE Calm		F. L. A. V.
30 40	5.40 5.40	SE E			23 00 24 00	6.04 6.22	SE	194	A. V.
18 00 10	5.41 5.40	E E F					August 30,	1904	
20 19 00 20 00 21 00 22 00 23 00 24 00	5.43 5.45 5.52 5.78 5.95 6.10 6.22 6.31	E E E E S E S E S E S E	939 988	F. L. A. V. A. V.	0 30 40 50 1 00 10 20 30	6.24H 6.21 6.23 6.20 6.09 6.10	SE SE SE SE SE Calm		A. V.
·		August 29	), 1904		40 2 00 3 00	5.97 5.86 5.69	Calm Calm Calm		A. V.
0 10 20 30 40 50 1 00 2 00	6.33H 6.32 6.24 6.21 6.20 6.18 5.91 5.62	SE SE SE SE SE SE Calm		A. V.	4 00 5 00 30 40 50 6 00 10 20	5.52 5.40 5.38L, 5.41L, 5.42L, 5.38L, 5.40 5.42	Calm SE SE SE SE SE Calm	206	Ċ. E. R.
3 00 4 00 5 00 10 20 30 40	5.02 5.48 5.38 5.36 5.37 5.35L	E NE NE NE N	13	A. V. C. E. R.	30 40 7 00 8 00 9 00 10 00 11 00	5.41 5.45 5.52 5.70 5.90 6.15 6.32	EEEEEE	243	C. E. R. F. L.
6 00 10 7 00 8 00 9 00 10 00	5.40 5.44 5.60 5.80 6.05 6.30	NW NW NW SE	28	C. E. R. F. L.	12 00 10 20 30 40 50	6.42 6.43 6.43 6.44H 6.41 6.40	HEEEEEEEEE. E	320	
11 00 50 12 00 10 20 30 40	6.52 6.58H	EEEEEEEEEEEEEEEE	76	,	13 00 14 00 15 00 16 00 17 00 18 00	6.38 6.11 5.81 5.54 5.34 5.20	SE SE SE SE	383	
50 13 00	6.40 6.36	E ESE		F. L.	10 20 30	5.19L, 5.20 5.20	SE SE SE		F. L.

Tabulation of tidal observations at Cape Flora, Northbrook Island

Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	
	A	lugust 30,	1904		August 31, 1904					
h m	Feet		Miles		h m	Feet		Miles		
18 40	5.20	SE		F. L.	7 00	5.52	E SE SE SE		C. E. R.	
50	5.21	SE SE SE SE SE			8 00	5.60	SE	465	0	
19 00	5.21	SE			9 00	5.80	SE	1-5	C. E. R.	
10	5.25	SE			10 00	б.oз	SE		F. L.	
20 00	5.35	SE	418		11 00	6.29	SE			
2I 00	5.60	SE	•	F. L.	12 00	6.40	SE	540		
22 00	5.81	Calm		F. L. A. V.	13 00	6.46H	E			
23 00	6.02	SE			10	6.44	E			
24 00	6. 12H	Calm	428	A. V.	20	6.44	E			
					30	6.40	E			
		August 31	, 1904		40	6.40	E			
					50	6.31	E			
I 00	6. 10	Calm		A. V.	14 00	6.30	E			
2 00	5.94	SE			15 00	6.20	SE	_		
3 00	5.83	Calm		A. V.	16 00	5.80	SE	620		
4 00	5.64	Calm	429	C. E. R.	17 00	5.54_	SE			
5 00	5.50	E			18 00	5.41L	SE			
30	5· <b>43</b>	Ē			19 00	5.41	SE			
40	5.41	Ē			20 00	5.54	Seeeeeeeeeeee Soosoooo	714	T . T	
50	5.41	E			21 00	5.70	SE SE		F. L.	
6 00	5.40L	Ĕ			22 00	5.94	ŠĒ SE		A. V.	
10	5.42	E E E E E E E		O E E	23 00	6.09	SE SE	821	A 37	
20	5.46	E		C. E. R.	24 00	6.45H	SE	621	A. V.	

## TIDAL OBSERVATIONS

## TABULATION OF TIDE GAUGE READINGS

RECORDED AT

TEPLITZ BAY STATION, RUDOLPH ISLAND

FRANZ JOSEF ARCHIPELAGO

APRIL 1, 1904, TO JUNE 3, 1904

NORTH LATITUDE: 81° 47.'5

LONGITUDE EAST OF GREENWICH: 57° 56'

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

_	_								
Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
		April 1,	1904				April 3, 19	04	
h m	Feet		Miles		h m	Feet		Miles	
17 00 18 00 19 00 20 00 21 00 22 00 23 00	4.05 4.31 4.45H 4.33 4.19 3.55 3.05	S to SE SW W to SW W to SW W to SW S	6 18 6 7 7 3 4	W. J. P. W. J. P. F. L.	9 55 10 55 11 58 12 55 13 55 14 55 15 55	4. I2 3.68 3.30 3.02 2.84L, 2.90 3.19	S to SW S to SE SE S S to SW S to SW	2 2 3 4 4 4 2 2	F. L.
24 00	2.75	SE	5		16 55 17 55	3·53 4.00	S	3	
one	:00 grindir hour; dire lling.	ng of ice coection was	ould be hea not discern	ard for about ible from the	18 55 19 55 20 25	4.30 4.54 4.55	S to SW S SSW	4	F. L. S. W. S.
		April 2,			45 55	4.57H 4.55	S	5	
o 58	2.58L	SE	5	W. J. P. S. W. S.	2I 55 22 55	4.28 3.87 3.46	SSW S WSW	3 2 4	S. W. S.
2 58 2 58	2.59 2.82 3.23	SSW SW SSW	4 4 3	S. W. S.	23 55	3,40	April 4,	•	p
4 58	3.70	SE SE	4		0 55	3.15	SE	3	S. W. S.
0 58 1 58 2 58 4 58 58 58 58 58 58 58 58 58 58 58 58 58	4.05 4.27 4.32H 4.14 3.73 3.32 3.00 2.81	SS SS SE SS SS SW	4 5 4 5 7 7 5 2 3	S. W. S. F. L.	1 55 2 25 40 55 3 55 4 55	2.89 2.82 2.82L, 2.83 2.98 3.30 3.69	ESE SW E SE ESE W ESE	Light Light Light Light Light Light Light	
57 13 57 14 57 15 57 16 57	2.77L, 2.93 3.30 3.72	S SE S	2 2 2	\* - \$2° - \$2° - \$2°	5 55 6 55 7 55 8 55 9 25	4.04 4.25 4.34H 4.31	ESE SE ESE	2 2 3	S. W. S. F. L.
17 57 18 56	4.12 4.40	SE to S	3 5 7 6	F. L.	55 10 55	4.2I 3.90	E	4 2	, 2
19 56 20 16 56 21 56	4.51H 4.47 4.30 4.00	SE SE ESE SSE ESE	6 5 5 8	S. W. S.	11 57 13 00 14 00 15 00 16 00	3.39 3.17 2.91 2.80L 2.97	eeeeee Seeees ES	2 4 8 16 19	*
22 56 23 56		SE	8	S. W. S.	17 00 18 00	3.24 3.62	E E	23 25	
ή.	'ide gange	:00 from ti reading of s to horizo	R. M. No.	B. M. No. 1. 1, 14.19 feet.		4.04 4.30 4.43H	ESE ESE ESE	30 27 29	F. L. S. W. S.
		April 3,			45 22 00 23 00	4.40 4.37 4.12	E ESE ESE	21 16	
o 56	2.84	SE	8	S. W. S.	24 00	3.28	S	18	S. W. S.
1 26 41 56 2 11 26	2.75 2.72 2.70 2.69L	ESE ESE ESE ESE	7		wesi 18:3	t out of 1 o to 19:00.	oav within	one-half n ter in south	nile off show Lice return
56	2.80	ESE E S	7 6				April 5,	1904	
3 56 4 56 5 56 6 56 7 56 8 26 41	3.54 3.98 4.28 4.44 4.46H	WSW WSW SW SW SW SW	766 556 5	S. W. S.	1 00 2 00 3 00 30 4 00 5 00	3.42 3.15 3.01L 3.03 3.09 3.30	ESE S S S S	18 18 18 18 19	S. W. S.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
	•	April 5, 190	24				April 7, 19	04	·
		1xptit 5, 19					лри 7, 19	•	
h m	Feet	CM	Miles -6	o w o	h m	Feet	NTT <sup>2</sup>	Miles	CMC
6, oo 7 oo	3.66 4.02	SW SSW	16 16	S. W. S.	7 00 8 00	3.20 3.45	NE E	. 3	S. W. S. S. W. S.
8 00	4.35	SW	14	S. W. S.	9 00	3.57	NE	ī	F. L.
9 00	4.52H	SW	15 18	F. L.	10 00	3.71	E E E E N	2	
II 00 IO 00	4.51 4.33	WNW WNW	10 12		II 00 I2 02	3.8oH 3.79	E,	3 2	
12 04	4.00	NW	13		13 00	3.69	$\vec{\mathbf{E}}$	1	
13 00	3.69	NW NW	II		14 00	3.49		I	
14 00 15 02	3.4I 3.2I	NW	11 13		15 00 16 00	3.29 3.14	E NW	2 2	
16 00	3.20L	NW	15		17 00	3.10L	NE	Ī	
17 00	3.36	NW	14		18 00	3.11	N	2	
18 00 19 <b>00</b>	3.61 3.90	NW N	15 15		19 00 20 00	3.29 3.42	N N	2 4	F. L.
20 00	4.20	N	ıŏ	F. L.	21 00	3.61	ENE	2	S. W. S.
21 00	4.32	NNW	15	S. W. S.	22 00	3.74	ENE	3	
22 00	4.40H 4.39	N N	13		23 00 24 00	3.83H 3.80	ENE NNW	3	S. W. S.
23 00	4.25	NNW	11		-	-		_	
24 00	3.99	NE	IO	S. W. S.	B. M.	No. I cor	responds to	tide gauge	e reading of
Ice ca	me in at	5:30; press	ure continu	ned to 5:45;	Open	water out	of bay at 17	7:50 to 7:00	April 8.
7:30	open wate	r south of	Cape Auk.				April 8,		-
		April 6,	1004			6.			0.117.0
		-	- '	o au o	0 59 1 59	3.67 3.48	NNW ENE	2	S. W. S.
I 00 2 00	3.59 3.25	NE N	11 10	S. W. S.	2 59	3.29	NNW	<b>3</b> 3	
3 00	3.03	NNW	14		3 59	3.11	NW	2	
35	2.97L	N NE	8		4 59 5 59	3.02 3.00L	NNW NNW	2 I	
4 400 5 00	2.98 3.07	NNE	2 .		6 59	3.10	W	3	,
6 00	3.20	N	2 ·		7 50	3.20	ŅĒ	I	s <u>.</u> w. s.
7 00	3.42	ENE	4	S. W. S.	8 59 9 59	3·39 3·50	NE Calm	3	F. L.
8 oo 9 oo	3.70 3.91	NE N	4 3	F. L.	10 59	3.62	N	I	
10 00	4.00H	$\mathbf{E}$	4		12 03	3.68H	E .;	I	
11 00	3.97	N NW	3		59 13 59	3.66 3.59	Calm NE	2	
12 04 13 00	3.83 3.52	N	1 5		14 59	3.46	E	ī	
14 00	3.31	SE	9		15 59	3.32	Calm		
15 00	3.16	Ş	14		16 <b>59</b> 17 <b>59</b>	3.21 3.15L	Calm NE	· 7	
16 00 17 00	3.06L 3.10	S E E E	19 23		18 59	3.20	N is		
18 <b>0</b> 0	3.26	E	21		19 59	3.30	E	, 3	F. L.
19 00	3.49	E NE	17	F. L.	20 59 21 59	3.40 3.54	NNE NE	3 3	S. W. S.
20 00 21 00	3.72 3.92	E	II II	s. w. s.	22 59	3.63	NE	3	
22 02	4.01_	NNW	6		23 39	3.68H	NE.		0 111 0
10	4.02H	NE	3		59	3.67	NE	<b>2</b> ·	S. W. S.
23.00 <b>24.00</b>	3.99 3.89	WSW WSW	3 7	S. W. S.			responds to	tide gauge	e reading of
Ice mo	oving out of	bay in not	th at 8:45.	Ice came in outh at 18:00.	14.07	feet.	April 9, 1	004	
at 15	, 10. ICE III		-	at 10.00,	0.50	3.65	NE		S. W. S.
		April 7, 1	1904		0 59 I 59	3.61	NNW	4	D. W. D.
I 00	3.63	W	I	S. W. S.	2 59	3.49	NNW	2	
2 00 3 00	3.36 3.15	W NNE	5 1	•	3 59 4 59	3·34 3·20	Calm NE	2	
4 00	3.00	W	2		5 59	3.20 3.10	Calm	<b>2</b> .	
10	2.97L	NNW	-		5 59 6 59	3.09L,	NNW	I	
5 00 6 00	2.99 3.04	NNE N	6	S. W. S.	7 59 8 59	3.13 3.22	NE N	2 2	S. W. S.
	J 4	-•	-	per 111 per	- 09	J	-1	~	D. 11. D.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

F. L. S. W. S. S. W. S.
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(i)

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

				<del></del>						
Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	
		April 14,	1004		April 16, 1904					
h m	Feet	<u>P</u> <del>-</del>								
n m 0 57	3.50	wsw	Miles 18	S. W. S.	h m 6 oo	4.63	sw	Miles 9	S. W. S.	
I 57	3.72*	W	17	D. 171 D.	7 00 8 00	4.65H	S	7	S. W. S.	
2 57 3 57	4.00 4.22	w wsw	19 18		9 00	4·55 4·24	sw sw	4 6	F. L.	
4 57	4.50H	SW WSW	17		59	3.91	sw	12		
4 57 5 57 6 57	4·47 4·36	W	17 18		10 59	3.58 3.35	W W	11 14	•	
7 57 8 57	4.18 3.89	W W	16 14	S. W. S. F. L.	12 59 13 59	3.25L, 3.36	SW <b>SE</b>	6 6		
9 57	3.62	W	14	F. 14.	14 59	3.60	SE	8		
10 57 12 01	3.42 3.39L	W W	12 10		15 59 16 59	3·97 4·24	SW.	10 15		
57	3.49	W	11		17 50	4.42	SW	17		
13 57 14 57	3.66 3.99	W NW	10 9		18 59	4.51H 4.41	SW SW	17 16	F. L.	
15 57 16 57	4.21	N N	9		20 59	4.12	SW WSW	13	S. W. S.	
I7 57	4.40 4.48H	NE	10 10		21 59 22 59	3.70 3.36	wsw	11 10		
18 57 19 57	4.40 4.16	NW N	8	F. L.	23 59	3.07	SSE	6	S. W. S.	
20 57	3.85	SE	3 6	s. w. s.			n southwes		e in south-	
2I 57 23 I4	3.51 3.28	E E	6 4		west	. Ice pres	sure in wes	t 7:00 to 8	:15.	
57	3.21L	E	2	S. W. S.			April 17,	1904		
Ice op	ened about t mile from	t 50 yards	wide, sout	thwest, one-	1 00	2.97L	ESE ESE	7 6	S. W. S.	
eigili	i iiiie iio				2 00 3 00	2.99 3.26	ESE E	6 3		
		April 15, :	1904		4 00	3.60	E	12		
O 57 I 57	3.30 3.50	NE SE	3 3	S. W. S.	5 00 6 00	3·93 4·28	NW NW	10 8		
2 57	3.83	ENE	4		7 00 8 00	4.41 4.50H	NW N	<b>6</b> 16	C 337 C	
3 57 4 57	4.13	EEEEEE	2 5		9 00	4.30	NE	6	S. W. S. F. L.	
4 57 5 57 6 57	4.56H 4.51	E	2		II 00	3.92 3.69	NE NE	6 · 8		
7 57	4.36	Ĕ	3 4 2	S. W. S.	12 03	3.39_	NE	10		
9 <b>00</b> 10 00	4.02 3.70	E E	2 1	F. L.	13 00 14 00	3.21L, 3.23	E NE	10 9		
11 00	3.48	N	6		15 00	3.42	NE	3 5		
I2 03 I3 00	3.36L 3.39	N N	9 13		16 00	3.79 4.12	NE NE	5 14		
14 00	3.59	N	9 6		18 00	4.42 4.58	NE NE	14		
15 00 16 00	3.90 4.20	NW NW	3		20 00	4.50 4.60H	W	13 18	F. L.	
17 00 18 00	4.49 4.68	NW NW	4		2I 00 22 00	4·45 4·10	N ENE	4 2	S. W. S.	
19 00	4.69H	W	3 4		23 00	3.70	SE	3		
20 00 21 00	4·53 4·23	SE SE	3 6	F. L. S. W. S.	24 00	3.40	ENE	9	S. W. S.	
22 00	3.85	SE	7	p. w.p.	Ice op	ened west	5:00. Ice r	noving nor	thwest about	
23 00 24 00	3.59 3.40	ESE SE	7 6	S. W. S.	9:00.					
Tide g				14.09 feet at	1		April 18,	1904		
noon	1.			1.09 2000 40	I 00 2 00	3.12 3.12L	ENE ENE	II	SW S.	
1 4		April 16,	1904		3 00	3.26	NE	17 20		
1 00	3.35L	ESE	7 8	S. W. S.	4 00 5 00	3·57 3·98	NE NE	18 18		
	3.50	SE	8		5 00 6 00	4.30	NÉ	18		
2 00 3 00		ESE	h		ar					
2 00 3 00 4 00 5 00	3·55 4·17* 4·48	ESE ESE SSW	<b>6</b> 5 <b>7</b>	S. W. S.	7 00 8 00	4.53 4.64H	NNE NE	<b>2I</b> 2I	S. W. S.	

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	
		April 18, 19	004		April 20, 1904					
<b>1</b>					<b>1</b>		-1	·		
h m 10 01	Feet 4.30	NW	Miles	F. L.	h m 15 02	Feet 3.42L,	E	Miles 52	F. L.	
11 01	3.94	NW	4 5	2. 4.	16 00	3.45	NE	47	1. 14.	
12 OI 13 OI	3.60	S S	2		17 00	3.70 3.95	E	41		
14 01	3.41 3.30L	SW	4 5 <b>8</b>		19 00	4.20	Ē	42 47		
15 01 16 01	3.34 3.60	NE N	8 12		20 00 21 10	4.48 4.51H	E,	47	F. L.	
17 01	3.95	NNW	19		22 00	4.3111	EEEEEE	45 <b>42</b>	S. W. S.	
18 01	4.30	N N	17 16		23 00 24 00	4.25 3.91	E E	42 38	S. W. S.	
19 01 20 01	4·43 4.50H	N	15	F. L.				35		
2I 0I 22 0I	4.40 4.10	N N	14 13	S. W. S.	lce br	oke about 20:00. H	one-half n	nile out be	tween 19:00	
23 01	3.67	N	12			ted view.	owy drift	118 3110 W 6	ind log ou-	
24 01	3.30	N	8	S. W. S.			April 21,	1904		
		April 19,	1904		1 00	3.51	ESE	32	S. W. S.	
1 00	2.98	N	9	S. W. S.	2 00 3 00	3.31 3.21L	ENE E	28		
2 00 3 00	2.80L, 2.81	NNE NNE	11 4		4 00	3.21	E	32 32 38		
4 00	2.99	N	5		5 00 6 00	3.32 3.58	ESE E	38 37		
5 00 6 00	3.31 3.63	ENE NE	3 2		7 05	3.92	ESE	39		
7 00	3.90	N	3	a III a	8 oo 9 os	4. I2 4. 32	ESE ESE	39 40		
8 oo 9 oo	4.04 4.05H	E NW	I I	S. W. S. F. L.	10 00	4.39H	ESE	40	S. W. S. F	
10 00	3.89	$\mathbf{N}\mathbf{W}$	5 2		II 00 I2 00	4.28 4.01	ESE E	38 38	R. R. T.	
11 00 12 05	3.59 3.26	NW NE	2 2		13 00	3.76	E	37		
13 00	3.09	Calm			14 00 15 00	3.51 3.38	E ENE	30 17	R. R. T.	
14 00 15 00	2.90L 2.92	N S	3 2		16 <b>0</b> 0	3.30L	SE	6	W. J. P.	
16 00	3.06	SE SE	19		17 00	3.42 3.56	SW ESE	5 12		
17 00 18 00	3.48 3.80	SE SE	24 30		19 01	3.80	ENE-ESE	20		
19 00 '	4.10	SE	29	12 T	20 00 2I IO	4.06 4.18	E S S	10 10	W. J. P.	
20 00 21 00	4.30 4.36H	ESE ESE	29 31	F. L. S. W. S.	22 00	4.20H	S	II	S. W. S.	
22 00	4.24	ESE ESE	35 38		23 00	4.11	ENE	11	S. W. S.	
23 00 24 00	3.92 3.62	ESE	33	S. W. S.	Large 4 mi	lead one-h les at 20:0	alf mile ou o. Horizor	t at 16:00.	Open water 21:10. After	
			tide gang	e reading of	l ohse	rvation at	23:00 wire	parted belo	w staff.	
14.05	feet toda	y noon.					April 22,	1904.		
		April 20,	1904		3 03 4 00	3.67 3.58L	ENE NE	19	S. W. S.	
1 00.,	3.32	SSE	38	S. W. S.	5 00 6 00	3.58	NE	14 <b>8</b>		
2 00 ° 3 15	3.22 3.10L	SSE E	41 40		6 00 7 00	3.70 3.99	N N	5 11		
4 00	3.22	ESE	40		8 00	4.2I	NNE	13		
5 00 6 10	3.52 3.90	ESE ESE	46 54		9 00	4.40 4.48	S SE	40 6	S. W. S. R. R. T.	
7 10	4.25	ESE	54 58		11 00	4.50H	ESE	4		
8 <b>0</b> 0 9 10	4.41 4.60H	ENE ENE	бо б1		12 00 13 00	4.38 4.16	S	1 4	R. R. T. F. L.	
10 00	4.51	E	63	d 17* d	14 00	3.91	SE	2	1. I4.	
11 00 12 05	4. <b>2</b> 6 3.96	ESE E	54 53	S. W. S. F. L.	15 00 16 00	3.74 3.70	SE E	3 I		
13 00	3.71	ESE	59		17 00	3.60L	E E	I		
14 00	3.50	ESE	<b>5</b> 3	F. L.	18 02	3.70	E,	2	F. L.	

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observ <b>er</b>	
	1	April 22, 19	004		April 25, 1904					
h m	Feet	1,,,	Miles		<i>h</i>					
19 00	3.81	Ė	<i>Mues</i>	F. L.	h m o 58	Feet 4. 18H	NE	Miles 22	S. W. S.	
20 00	4.09	W	2		0	4.14	ENE	27 28	D: 111 D;	
2I 00 22 00	4.23 4.39	ENE	1 2	F. L.	2 58	4.07 3.91	ENE ENE	28 29		
23 05 24 00	4.40H 4.32	NW ESE	2 4	S. W. S. S. W. S.	4 58	3.73	ENE	28 26		
•			4	D. 11. D.	588 588 588 558 558 558 78 558	3.58 3.46_	NE NE	22		
Tide g	Tide gauge reset.  Tide gauge reading of B. M. No. 1 is 14.56 feet at noon today. This is the first reading of the gauge after resetting it last night.					3.43L 3.47 3.62 3.83	N NNE NE NE	16 12 10 11	S. W. S. F. L.	
		April 23, 1	904		10 58 12 00 58	4.0t 4.18	NNE N			
1 00	4.10	ESE	2	S. W. S.	то гО	4.25H	NW	5555 <b>6688</b>		
2 00 3 00	3.86 3.64	N E	4 3		14 58 15 58 16 58 17 58 18 58	4.24 4.17	NW NW	5 5		
4 00	3.46 3.38L	E E E N E E E SE	2		16 58	4.00 3.79	NW N	6		
5 00 6 00	3.41	Ë	3 2		18 58	3.58	N	8	•	
7 00 <b>8 00</b>	3⋅53 <b>3⋅7</b> 5	N E	3 2	S. W. S.	19 58 20 58 21 58	3.48 3.41L	N N	8 13	F. L.	
9 00	3.99	E	2	F. L.	21 58	3.49	N	12	S. W. S.	
11 00	4. I I 4. 2 I	E	2 I		22 58 23 58	3.62 3.87	N N	10 7	S. W. S.	
12 02 13 00	4.29H 4.20	Calm SE	4				April 26, 1	1004	, ,	
14 00	4.02	N			0.48	4.00	N		0.117.0	
15 00 16 00	3.82 3.70	N N	4 7 6		0 58	4.00 4.13	NNW	7 6	S. W. S.	
17 00 18 00	3.60 3.60L	NE N	1 4		2 58 3 558 3 4 558 5 58 5 58 7 58 9 58	4.12 4.15H	NNW NNW	6		
19 00	3.65	N	4 6	т. т	4 58	4.02	N	5 <b>6</b> <b>8</b>		
20 00 21 00	3.80 4.00	NE N	5	F. L. S. W. S.	6 58	3.88 3.68	NW NW	8 6		
22 00	4.12	NE ENE	5 5 2		7 58	3.48 3.42L,	NW WNW	9	S. W. S.	
23 05 24 00	4.24 4.28H	N	4	S. W. S.	9 58	3.50	NW	9 10	F. L.	
		April 24,	1904		10 58	3.65 3.89	NW W	9 0		
0 59	4.26	N	6	S. W. S.	12 58 13 58 14 58	4.10 4.30	NW NW	9 9 8 6		
1 59 2 59	4.07 3.88	N N	6		14 58	4.43H	NW	6		
3 59	3.67	N	5 7		15 58 16 58	4.4I 4.32	W W	4 5 6		
4 59 5 59	3·54 3·47L	NE E	5 2		17 58 18 58	4.12	W NW	Ğ		
5 59 6 59	3.52 3.59	$\mathbf{E}$	3	S. W. S.	19 58	3.91 3.69	$_{ m NW}$	6 6		
7 59 8 59	3.76	SE	8	F. L.	20 58 21 58	3.51 3.48L,	WNW WNW	<b>7</b> 5	F. L. S. W. S.	
9 59 10 59	3.91 4.12	SE SE SE E E	5 3		. 22 58	3.57	NNW	4	•	
11 59	4.20	E E	2 36 8 5 3 2 5 5 5		23 58	3.70	WNW	I	S. W. S.	
12 59 13 59 14 59	4.28H 4.21 4.09	SE	11		Tide g 14.59	ange readir feet.			y at noon is	
15 59 16 59	3.91 3.76	E E	13 18				April 27, 1	1904	,	
17 59 18 59	3.64 3.59L	E E E E	19 15		0 58 1 58	3.95 4.28	W <b>NW</b> N	3	S. W. S.	
19 59	3.60	E	14	F. L.	2 58	4.36	W	2 I	•	
20 59 21 59	3.70 3.83	E NNE	15 22	S. W. S.	3 58 4 58	4.41H 4.39	ENE ESE	I		
22 59	4.00	NE NE	21	C W C	1 58 2 58 3 58 4 58 5 58 6 58	4.20	E	1	G W G	
23 59	4.09	14 E	18	S. W. S.	1 0 50	3.96	VV	4	S. W. S.	

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
		April 27, 19	904			1	April <i>2</i> 9, 19	004	
h m	Feet		Miles		h m	Feet		Miles	
7 58 58 9 58 10 58 11 58	3.73 3.54 3.41L 3.50 3.69 3.91 4.21 4.48	SEEEEESSSSW SSSSSSSSSSSSSSSSSSSSSSSSSSS	2 3 3 5 5 3 2	S. W. S. F. L.	11 57 12 57 13 57 14 57 15 57 16 57 17 57 18 57	3.06L 3.20 3.49 3.83 4.20 4.42 4.57H 4.45	NW NE NE NE NE NE	5 6 4 3 3 2 2 2	F. L.
13 58 14 58 15 58 16 58 17 58 18 58 19 58	4.60H 4.59 4.45 4.19	S S NW	2 I I I		19 57 20 57 21 57 22 57	4.16 3.80 3.31 3.02	NE N ENE ENE	2 I 2 3	F. L. S. W. S.
20 58	3.85 3.59	N NE	I I	F. L.	23 57	2.82L	E	1	S. W. S.
21 58 22 58	3.40 3.32L	NNE Calm	I	S. W. S.	A sligl	nt swell, bu			ght at 18:57
23 58	3.44	Calm		S. W. S.			April 30,	1904	
o 57	3.67	April 28, Calm	1904	S. W. S.	0 56 1 56 2 56	2.89 3.13 3.49	E E	2 3 2	S. W. <b>S</b> .
1 57 2 57 3 57 4 57 5 57 6 57	4.00 4.29 4.41 4.48 4.54H 4.34	ENE Calm Calm Calm Calm Calm	I		3 56 4 56 5 56 6 56 7 56 8 56	3·94 4·29 4·46 4·49H 4·32 3·95	EEEEEE NN	2 3 4 2 2 3 2	
7 57 8 57 9 57 10 57 10 57 11 57	3.98 3.70 3.50 3.40L, 3.40 3.46	Calm NE NE Calm Calm Calm	I	S. W. S. F. L.	9 56 10 56 11 56 12 56 13 56 14 56	3.56 3.29 3.10 3.07L, 3.41 3.64	N N E N E	2 3 4 2 5 2	
12 57	3.64	Calm			15 56 16 56	4. I2 4.40	Ë NNW	3 3	
13 57 14 57 15 57 16 57	4.00 4.31 4.51 4.68H	NE NE NE	4 7 7 6		17 56 18 56 19 56 20 56	4.60 4.70H 4.51 4.18	N N N ENE	3 5 2 2	S. W. S. W. J. P. R. R. T.
17 57 18 57	4.64 4.40 4.00	N N N N	5 7 9	F. L.	21 56 22 56	3.70 3.36	ENE ENE	2 2	20, 20, 21
19 57 20 57	3.61	N N	11 9	S. W. S. F. L.	23 56	3.02	NE	3	R. R. T.
21 57 22 57	3.32 3.08L	N N	9	S. W. S. S. W. S.			May 1,	1904	
	3.13 gauge read 1.53 <b>feet.</b>		10 M. No. 1 t	oday at 5:00	0 56 1 56 2 56 3 56	2.91L, 3.07 3.21 3.76	NE NE NE ENE	3 2 3 1	R. R. T.
		April 29,	1904		4 56	4.19 4.45	N SE	1 3	
0 57 1 57 2 57 3 57 4 57	3.17 3.48 3.82 4.15 4.48H	N N N N	8 9 6 7 5	S. W. S.	5 56 6 56 7 56 8 56 9 56 10 56	4.63 4.68H 4.42 4.02 3.66	E NE E SSW NNW	2 2 2 3 7 6	R. R. T. S. W. S.
5 57 6 57 7 57 8 57 9 57 10 57	4.44 4.35 4.05 3.70 3.40 3.12	ENE N N NNW N N	7 5 5 9 7 7 7	S. W. S. F. <i>L.</i> F. <i>L.</i>	11 56 12 56 13 56 14 56 15 56 16 56	3.43 3.30L, 3.36 3.63 4.04 4.50	NW NNW NE N N	6 8 3 3 5 9	<b>S</b> . W. S.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

			on of man	DOSET DUTIONS	We I E Press	Duy, Ituu			
Local mean time	Reading of tide staff	Wind direction	Anemom- eter records	Observer	Local time mean	Reading of tide staff	Wind direction	Anemom- eter records	Observer
		May 1, 190	)4				May 3, 190	04.	
h m 17 56 18 56 19 56 20 56 21 56 22 56	Feet 4.78 5.03H 4.95 4.79 4.36	N NNW NNW NW W NNW	Miles 15 8 8 7 12	S. W. S. S. W. S. J. V.	h m 21 56 22 56 23 56 At 0:5	Feet 4.87 4.57 4.16 66 ice pack	NNE E ESE moving of	Miles II  f in wester	R. R. T. R. R. T.  ly direction t about five
23 56	3.94 3.59	NNW	9	J. V.	miles				t about mis
Young 16:50		ng one-hal	f mile to f	the west at	0 55	4 90	May 4, 1	904	אל ס ס
0 56 1 56 2 56 3 56 4 56 5 56 7 56 9 56 10 56	3.33 3.30L, 3.40 3.79 4.21 4.63 4.83 4.96H 4.89 4.60 4.20 3.86	May 2, 1  NNW NW NNE N NNE N NNE N NNE N NNE N NNE N NNE N NNE N	10 7 11 12 12 9 9	J. V. S. W. S.	0 55 1 55 2 55 3 555 5 55 5 55 6 55 7 55 9 55 12 01 55 13 50 15 00	3.82 3.61 3.50L 3.86 4.21 4.57 4.82 4.94 4.74 4.38 4.19 3.94 3.82L 3.91	NSW E E E WE E E E NS E E E NE E E E E E E E E E E	3 2	R. R. T. R. R. T. S. W. S.
12 56 13 56 14 56 15 56 16 56 17 56 18 56 20 56 21 56 23 56	3.67 3.62L 3.73 4.05 4.34 4.75 4.96 5.10H 4.99 4.72 4.30 3.88	NNE N N N N N N N N N N	11 10 13 11 10 8 9 12 14 12 11	S. W. S.	17 00 18 00 19 00 20 04 21 00 30 22 00 23 00 24 00	4.07 4.45 4.65 4.87 4.95H 4.95 4.91 4.72 4.37	SSE E SSE SE E E E Calm g at 21:30.	5 4 2 2 1 2 2 1	S. W. S. J. V.
		May 3, 1	904				May 5, 1	904	
0 56 1 56 2 56 3 56 4 56 5 56 7 56 7 8 56	3.61 3.40L, 3.41 3.61 3.99 4.40 4.67 4.83	NNE NNE N N N N N N	9 11	J. V.	1 00 2 00 30 3 00 34 4 00 5 00 6 00 7 00	4.02 3.78 3.69 3.61 3.58L, 3.60 3.71 4.01 4.28	NE ENE NE ENE ENE ENE	2 2 1 4 3 2	J. V.
7 56 8 56 9 56 10 56 12 16 56 14 56 15 56 16 56 17 56 18 56 19 56 20 56	4.03 4.94H 4.74 4.44 4.01 3.69 3.66L 3.81 4.10 4.48 4.92 4.99H	NWW NW NW N N N N N N N N N N N N N N N	8 8 11 12 13 15	J. V. S. W. S.	8 00 9 00 10 00 11 00 12 06 13 00 14 00 15 10 16 00 10 30 40	4.20 4.72 4.78 H 4.71 4.42 4.00 3.82 3.82 3.82 3.82 3.82 3.83 3.83 3.85	TENNUNCHEELE EENNUNCHEELE N	4 5 7 12 12 11 10 15 13	J. V. s. W. s.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Obse <b>rver</b>
		May 5, 190	).4				May 6, 190	) D4	
h m	Feet		Miles		h m	Feet		Miles	
17 00	3.90	ESE	5	S. W. S.	16 20	3.74_		171 770 0	S. W. S.
18 00	4.06	NNW	3		30	3.71L			
19 00 20 00	4.28 4.51	E NNE	9 2	S. W. S. R. R. T.	40 50	3.71 3.73			
40	4.61	E	2	10.10.11	17 00	3.73	NNW	14	
50	4.62	E ENE	1		10 20	3·74 3·76			
2I 00 10	4.63 4.64	NE	3		18 00	3.79	NE	13	
20	4.67	NNW			19 00	3.98	N E	22	CINC
30 40	4.69 4.69H	ENE E			20 00 21 00	4. 18 4. 30	SE	10 3	S. W. S. R. R. T.
50	4.69	Calm			50	4.34	NE		
22 00 IO	4.68 4.67	Calm ENE			22 00 IO	4.38 4.39	NNE ESE	5	
20	4.65	ENE			20	4.40	ESE		
23 00	4.60	ENE		R. R. T.	30 40	4.40 4.4I	E NNE		
24 00	4.39	E	2	K. K. 1.	50	4.4I	S		
		outhwest c	ne and on	e-half miles	23 00	4.42H	E ESE	3	
	gauge.	R M No r	at reinn is	14.565 feet.	10 20	4.4I 4.40	ESE		
ride re	cading of 1		-	14.505 1001.	30	4.40	ESE		
		May 6, 1	904		40 24 00	4.39 ⊿.33	ESE NE	3	R. R. T.
1 00	4.11	NNE	2	R. R. T.					
2 00	3.81	NE	I	F	lce clo	sed at 3:10	. Lead ope	ened one m	le in north
2 00		HINH	ď		west	direction	at thirm i	Onen water	two mile
3 00 10	3.63 3.61	ENE ENE	5		west	direction	at 16:10. (	Open water south at 22	two mile::20.
10 20	3.61 3.60	ENE WNW	5		west	direction	at 16:10. ( Ice closed	Open water south at 22	two mile::20.
10 20 30 '	3.61 3.60 3.58	ENE WNW WSW	5	,	west	direction	at 16:10. (	Open water south at 22	two mile::20.
10 20	3.61 3.60 3.58 3.56 3.52	ENE WNW WSW S SSE			west	direction : a at 21:00.	at 16:10. ( Ice closed	Open water south at 22	r two mile 2:20. R. R. T.
10 20 30' 40 50 4 00	3.61 3.60 3.58 3.56 3.52 3.51L	ENE WNW WSW S SSE SE	3		west south	direction : at 21:00.	at 16:10. (Ice closed May 7, 19  NE N	Open water south at 22 2004 4 2	2:20.
10 20 30' 40 50	3.61 3.60 3.58 3.56 3.52	ENE WNW WSW S SSE SE ENE E			west south 1 00 2 00 3 00	direction at 21:00.  4.13 3.92 3.72	at 16:10. (Ice closed)  May 7, 19  NE, N SSW	Open water south at 22	2:20.
10 20 30' 40 50 4 00 10 20 30	3.61 3.60 3.58 3.56 3.52 3.51L 3.52 3.52 3.52	ENE WNW SSE SSE ENE ESE SE			I 00 2 00 3 00 4 00 30	direction : at 21:00.  4.13 3.92 3.72 3.58 3.52	at 16:10. G Ice closed  May 7, 19  NE N SSW ENE ENE	Open water south at 22 2004 4 2	2:20.
10 20 30' 40 50 4 00 10 20 30 40	3.61 3.60 3.58 3.56 3.52 3.51L 3.52 3.52 3.52 3.53	ENE WNW WSW S SSE SE ENE E	3		i oo 2 oo 3 oo 4 oo 40	direction : at 21:00.  4.13 3.92 3.72 3.58 3.52 3.52	May 7, 19  NE N SSW ENE ENE Calm	Open water south at 22	2:20.
10 20 30' 40 50 4 00 10 20 30 40 5 00 6 00	3.61 3.60 3.58 3.56 3.52 3.51L, 3.52 3.52 3.52 3.52 3.58 3.71	ENE WNW SSE SSE ENE ENE SNE ENE ENE ENE	3		I 00 2 00 3 00 4 00 30	direction : 1 at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.51	May 7, 19  NE N SSW ENE ENE Calm Calm Calm	Open water south at 22	2:20.
10 20 30' 40 50 4 00 10 20 30 40 5 00 6 00 7 00	3.61 3.60 3.58 3.56 3.52 3.51L 3.52 3.52 3.52 3.53 3.53 3.58 3.71	ENEW WSSESEEE SSEEE ENSENEEN ENEENEEN	3 5 8 8	R.R.T.	1 00 2 00 3 00 4 00 30 40 50 5 00	4.13 3.92 3.72 3.58 3.52 3.51 3.51 3.50L	May 7, 19  NE N SSW ENE ENE Calm Calm Calm Calm	Open water south at 22	2:20.
10 20 30' 40 50 4 00 10 20 30 40 5 00 6 00	3.61 3.60 3.58 3.56 3.52 3.51L, 3.52 3.52 3.52 3.52 3.58 3.71	EWWS SEE E WEEEN NE ENNE E E E WEEE E NE E E E	3	R. R. T. S. W. S.	west south	4.13 3.92 3.72 3.58 3.52 3.51 3.51 3.51 3.50L 3.51	May 7, 19  NE N SSW ENE ENE Calm Calm Calm	Open water south at 22	2:20.
10 20 30' 40 50 4 00 10 20 30 40 5 00 6 00 6 00 9 00 20	3.61 3.60 3.58 3.556 3.52 3.51L 3.52 3.52 3.52 3.53 3.58 3.71 3.94 4.39 4.43	EWWSSEE SNSEEL NEEL NEEL NEEL NEEL NEEL NEE	3 5 8 9	R. R. T. S. W. S.	1 00 2 00 3 00 4 00 30 40 50 5 00 10 20 30 40	direction at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.51 3.50L 3.51 3.52 3.53	May 7, 19  NE N SSW ENE Calm Calm Calm Calm NW N N	Open water south at 22	2:20.
10 20 30' 40 50 4 00 10 20 30 40 5 00 6 00 7 00 8 00 9 00 20 30	3.61 3.60 3.58 3.56 3.52 3.51L 3.52 3.52 3.53 3.71 3.94 4.21 4.39 4.43 4.45	EWW SSEE WEEENE NE NE SSEE SNEENE NE EE NE EE NE EE NE EE NE EE EE NE EE E	3 5 8 9	R. R. T. S. W. S.	1 00 2 00 3 00 4 00 30 40 50 5 00 10 20 30 40 50	direction : 1 at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.51 3.50L 3.51 3.52 3.53 3.53	May 7, 19 NE, N SSW ENE, ENE, Calm Calm Calm Calm NW NW NE	Open water south at 22	2:20.
10 20 30' 40 50 4 00 10 20 30 40 5 00 6 00 7 00 8 00 9 00 20 30 40 50 50 50 50 50 50 50 50 50 50 50 50 50	3.61 3.60 3.58 3.556 3.51L 3.52 3.52 3.52 3.53 3.53 3.54 4.21 4.39 4.43 4.43 4.45 4.50 4.50	EWW SSEE SNSENEE EEEEE NEEENSNNEEEEEEE	3 5 8 8 9	R. R. T. S. W. S.	west south	direction : 1 at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.51 3.51 3.51 3.52 3.53 3.53 3.53 3.53 3.53 3.55	May 7, 19  NE N SSW ENE ENE Calm Calm Calm NW NW N N N N E E Calm	Open water south at 22	R. R. T.
10 20 30 40 50 60 60 90 90 40 50 10 00 10 00 10 00 10 00 10 10 10 10 10	3.61 3.60 3.58 3.556 3.52 3.51 3.52 3.52 3.53 3.58 3.71 3.94 4.21 4.39 4.43 4.45 4.50 4.53	EWW SSEE WEEEE NOONNEEEEEEE	3 5 8 9	R. R. T. S. W. S.	1 00 2 00 3 00 4 00 30 40 50 5 00 10 20 30 40 50 6 00 7 00 8 00	direction at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.51 3.50L 3.51 3.52 3.53 3.53 3.53 3.53 3.55 3.68 3.87	May 7, 19  NE N SSW ENE Calm Calm Calm Calm NW NW NW NE E Calm Calm Calm	Open water south at 22 204 4 2 1 1 1 2	R. R. T.
10 20 30' 40 50 4 00 10 20 30 40 5 00 6 00 7 00 8 00 9 00 20 30 40 50 50 50 50 50 50 50 50 50 50 50 50 50	3.61 3.60 3.58 3.556 3.52 3.51L 3.52 3.52 3.53 3.58 3.71 4.39 4.43 4.45 4.50 4.53 4.55	EWW SSE SNEEE NEEEEEWW	3 5 8 8 9	R. R. T. S. W. S.	west south	direction at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.51 3.51 3.50L 3.51 3.52 3.53 3.53 3.53 3.53 3.53 3.53 3.53	May 7, 19  NE N SSW ENE ENE Calm Calm Calm NW NW N N N N E E Calm	Open water south at 22	R. R. T.
10 20 30 40 50 6 00 7 00 8 00 20 30 40 50 10 00 10 20 30 30 40 50 10 00 10 20 30 30	3.61 3.60 3.58 3.55 3.51L 3.52 3.552 3.552 3.553 3.71 3.94 4.21 4.39 4.43 4.45 4.50 4.55 4.56 4.56 4.56	EWW SSE SUSEEN ENVINENTER STEELS WEEEL NOT NOT NOT NOT NOT NOT NOT NOT NOT NOT	3 5 8 8 9	R. R. T. S. W. S.	west south 1 00 2 00 3 00 4 00 50 5 00 10 20 6 00 7 00 8 00 9 00 10 00 40	direction : 1 at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.50L 3.51 3.55L 3.53 3.53 3.53 3.53 3.53 3.53 4.04 4.19 4.25	May 7, 19  NE N SSW ENE Calm Calm Calm Calm NW NW NW NE E Calm Calm Calm	Open water south at 22 2004 4 2 1 1 1 2 2 2	R. R. T.
10 20 30 40 50 60 60 70 80 90 90 10 20 30 40 50 10 20 30 40 50 10 00 10 20 30 40 10 10 10 10 10 10 10 10 10 10 10 10 10	3.61 3.60 3.58 3.55 3.552 3.51L, 3.52 3.552 3.552 3.558 3.71 4.21 4.39 4.43 4.45 4.50 4.55 4.55 4.55 4.55 4.55 4.55	EWW SSE SUSEEN EEEEEWWEE EWW SSE SUSEEN EEEEEWWEE	3 5 8 8 9	R. R. T. S. W. S.	west south	direction at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.50L 3.51 3.551 3.552 3.53 3.53 3.53 3.53 4.04 4.19 4.25 4.26	May 7, 19  NE N SSW ENE ENE Calm Calm Calm NW NW N N EE E E E E E E E E E E E E	Open water south at 22 2 1 1 1 2 2 1 1	R. R. T.
10 20 30 40 50 60 60 7 00 8 00 9 00 20 30 40 50 10 20 30 40 50 10 00 10 20 30 40 50 50	3.61 3.60 3.58 3.55 3.51L 3.52 3.552 3.552 3.553 3.71 3.94 4.21 4.39 4.43 4.45 4.50 4.55 4.56 4.56 4.56	EWW SSE SNEEEN NNNNNNN NEEE	3 5 8 8 9	R. R. T. S. W. S.	west south	direction at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.51 3.50L 3.51 3.552 3.53 3.53 3.53 3.53 4.04 4.19 4.25 4.26 4.27 4.28	May 7, 19  NE N SSW ENE Calm Calm Calm Calm NW NW NW NE E Calm Calm Calm	Open water south at 22 2004 4 2 1 1 1 2 2 2	R. R. T.
10 20 30 40 50 00 10 20 30 40 50 10 00 10 20 30 40 10 20 30 40 10 10 10 10 10 10 10 10 10 10 10 10 10	3.61 3.60 3.560 3.552 3.551 3.552 3.552 3.553 3.71 4.39 4.43 4.45 4.50 4.55 4.56 4.55 4.55 4.55 4.55 4.55 4.55	EWW SSE SNEEEN NNNNNNN EEEN	3 5 8 8 9 10	R. R. T. S. W. S.	west south 1 00 2 00 3 00 4 00 30 40 50 6 00 7 00 8 00 9 00 10 00 40 50 11 00 20	direction at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.51 3.50L 3.51 3.552 3.68 3.87 4.04 4.19 4.25 4.26 4.27 4.28 4.28 4.28 4.28 4.28	May 7, 19  NE N SSW ENE ENE Calm Calm Calm NW NW N N EE E E E E E E E E E E E E	Open water south at 22 2 1 1 1 2 2 1 1	R. R. T.
10 20 30 40 50 60 60 70 60 80 60 90 90 90 90 90 90 90 90 90 90 90 90 90	3.61 3.60 3.58 3.552 3.51L 3.52 3.552 3.552 3.558 3.71 4.21 4.33 4.45 4.55 4.56 4.55 4.55 4.55 4.55 4.55	EWW SSE SNEEEN NNNNNNN NEEE	3 5 8 8 9 10 9	R. R. T. S. W. S.	west south	direction at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.51 3.50L 3.51 3.552 3.53 3.53 3.53 3.53 4.04 4.19 4.25 4.26 4.27 4.28	May 7, 19  NE N SSW ENE ENE Calm Calm Calm NW NW N N EE E E E E E E E E E E E E	Open water south at 22 2 1 1 1 2 2 1 1	R. R. T.
10 20 30 40 50 60 60 60 70 60 80 90 90 90 10 20 30 40 50 11 00 12 00 11 00 12 00 11 00 12 00 11	3.61 3.60 3.58 3.552 3.51L 3.52 3.552 3.552 3.552 3.558 3.71 4.21 4.33 4.45 4.55 4.554 4.555 4.555 4.554 4.555 4.554 4.555 4.554 4.555 4.554 4.554 4.555 4.554 4.554 4.555 4.554 4.554 4.554 4.555 4.554 4.554 4.554 4.554 4.555 4.554 4.555 4.554 4.5	EWW SSE SNEEEN NNNNNN NEENNNN EWW SSE SNEEEN NNNNNN NEEENNNNN	3 5 8 8 9 10 9	R. R. T. S. W. S.	west south 1 00 2 00 3 00 4 00 30 40 50 50 6 00 7 00 8 00 9 00 10 00 40 50 11 00 20 30 40 50	direction at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.51 3.51 3.551 3.551 3.551 3.554 4.19 4.25 4.26 4.27 4.28 4.27 4.26	at 16:10. Of Ice closed  May 7, 19  NE N SSW ENE ENE Calm Calm Calm Calm NW NW NE E Calm E E E E E	Open water south at 22 2004  4 2 1 1 1 2 2 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 1 2 2 1	R. R. T.
10 20 30 40 50 40 50 60 60 60 70 60 80 90 90 90 90 90 90 90 90 90 90 90 90 90	3.61 3.60 3.56 3.58 3.55 3.552 3.552 3.552 3.558 3.71 4.39 4.43 4.45 4.56 4.55 4.56 4.55 4.55 4.55 4.55	EWW SSE SNEEEN NNNNNN EENNNNN EWW SSE SNEEEN NNNNNN EENNNNN EENNNNN	3 5 8 8 9 10 9	R. R. T. S. W. S.	west south 1 00 2 00 3 00 4 00 30 40 50 50 6 00 7 00 8 00 9 00 10 00 40 10 20 30 40 50 11 00 10 20 30 12 00 12 00	direction at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.51 3.51 3.51 3.52 3.53 3.53 3.53 3.68 3.87 4.04 4.19 4.25 4.26 4.27 4.28 4.28 4.27 4.28 4.27 4.28 4.27 4.26 4.27	at 16:10. Good Ice closed  May 7, 19  NE N SSW ENE Calm Calm Calm Calm NW NNE E Calm E E E E E E E E E E E E	Open water south at 22 2004  4 2 1 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1	R. R. T.
10 20 30 40 50 6 00 7 00 8 00 20 30 40 50 10 00 10 20 30 40 50 11 00 12 00 11 00 12 00 13 00 14 00 50 15 00 15 00 15 00 15 00 15 00 16 00 17 00 18 00	3.61 3.60 3.58 3.552 3.51L 3.52 3.552 3.552 3.552 3.558 3.71 4.21 4.33 4.45 4.55 4.554 4.555 4.555 4.554 4.555 4.554 4.555 4.554 4.555 4.554 4.554 4.555 4.554 4.554 4.555 4.554 4.554 4.554 4.555 4.554 4.554 4.554 4.554 4.555 4.554 4.555 4.554 4.5	EWW SSE SNEEEN NANNANN KEENNAN NEWW SSE SNEEEN NANNANN KEENNAN N	3 5 8 8 9 10 9	R. R. T. S. W. S.	west south s	direction at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.50L 3.51 3.552 3.53 3.553 3.553 3.68 3.87 4.04 4.19 4.25 4.26 4.27 4.28 4.28 4.28 4.27 4.28 4.28 4.27 4.28 4.29 4.26 4.27 4.26 4.27 4.26 4.27 4.27 4.26 4.27 4.27 4.26 4.27 4.27 4.27	at 16:10. 16 Ice closed  May 7, 19  NE N SSW ENE Calm Calm Calm NW NE E E E E E E E E E E E E	Open water south at 22 2004  4 2 1 1 1 2 2 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 1 2 2 1	R. R. T.
10 20 30 40 50 60 60 70 60 60 70 60 80 90 90 90 90 90 90 90 90 90 90 90 90 90	3.61 3.60 3.560 3.552 3.552 3.552 3.552 3.558 3.71 4.39 4.45 4.56 4.55 4.556 4.555 4.556 4.556 4.556 4.556 4.556 4.557 4.57 3.79	EWW SSE SNEEEN NNNNNN EENNNNN EWW SSE SNEEEN NNNNNN EENNNNN EENNNNN	3 5 8 8 9 10 9	R. R. T. S. W. S.	west south s	direction at 21:00.  4.13 3.92 3.72 3.58 3.52 3.51 3.51 3.50L 3.51 3.552 3.68 3.87 4.04 4.19 4.25 4.26 4.27 4.28 4.27 4.28 4.27 4.28 4.27 4.28 4.27 4.28 4.27 4.27 4.28	at 16:10. Go Ice closed  May 7, 19  NE N SSW ENE Calm Calm Calm Calm NW N NE E E E E E E E E E E E E E E E E	Open water south at 22 2004  I 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 1 2 2 1	R. R. T.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

						,			
Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
	-	May 7, 190	04				May 8, 190	)4	
h $m$	Feet		Miles		h m	Feet		Miles	
16 50	3.66	4-		S. W. S.	17 20	3.80			S. W. S.
17 00 10	3.65 3.64	N	4		30	3.80			
20	3.64				40 50	3.78 3.76			
30	3.63L				18 00	3.75	a	8	a 111 a
40 50	3.64 3.64				10 20	3.70L, 3.70	S		S. W. S. J. V.
18 00	3.64	ENE	6		30	3.71			J. V.
19 00	3.65 3.70	ESE	2		40	3.71			S. W. S.
20 00	3.80	NNE	3 3	S. W. S.	50 19 00	3.72 3.72	SSE	8	
21 00	3.95	ENE ENE	3	J. V.	20 05	3.77	ESE	10	S. W. S.
22 00 10	4.06 4.07	ENE	4		2I 00 22 00	3.85 3.97	ESE ESE	11 15	J. V.
20	4.10	ENE			23 00	4.07	E	14	
30 50	4. II 4. I3	ENE ENE			10 20	4.07 4.09	E H		
23 18	4.17	ENE	5		35	4.10	Ĕ		
30 40	4. 19H 4. 17	ENE ENE			40	4.10	E E E E E		
50	4.16	ENE			50 24 00	4.11 4.13H	Ë	15	J. V.
24 00	4.15	ENE	6	J. V.			May 9, 1	_	•
		May 8, 1	904		0 00	4.13H	• • •	904	7 37
0 00	4.15	ENE		J. V.	10	4.1311 4.12	EEEEEEEEE		J. V.
I 00	4. I4 4. II	ENE ENE	I		20	4.11	E		
2 00	3.97	E	4		30 40	4.II 4.II	Ë		
3 00 4 00	3.80 3.66	E E	2 6		1 00	4.10	Ë	15	
5 00	3.58	ESE	7		2 00 3 00	4.09 3.99	Ë	14 13	
10 20	3.56 3.55	ESE ESE			4 00	3.84		14	
30	3·55 3·54	ESE			5 00 6 00	3. <b>72</b> 3.64	ESE ESE	12 13	
40	3.53	ESE			50	3.59	ESE	-3	
50 6 00	3.52 3.52	ESE E	6		7 00	3·57 3·57	ESE ESE	11	
10	3.51	ESE			20	3.57	ESE		
20 30	3.51L, 3.51	ESE E			30	3·57 3·56L	ESE ESE		
50	3.52	Ē			40 50	3.58	ESE		
7 00 10	3⋅55 3⋅55	E E E	5		8 00	3.58	ESE	II	
20	3.56	E			10 20	3·59 3·60	ESE		J. V. S. W. S.
8 oo 9 oo	3.70 3.84	E ESE	6	J. V. S. W. S.	9 00	3.67	ESE	12	D D.
10 00	4.02	ESE	5	S. W. S.	10 05 11 00	3.80 3.94	ESE ESE	10 <b>12</b>	
11 00	4.14	ESE	5		12 00	4.09	E	13	
40 50	4.20 4.23				13 00	4. 17 4. 18	E	16	
I2 00	4.24	SE	6		10	4.19	14	10	
10 20	4.27 4.29H				20	4.20			
30	4.28				30 40	4.2I 4.22			
40 50	4.28 4.27				50	4.22	<b>T</b> 4		
13 00	4.27	ESE	6		I4 00 I0	4.23 4.23H	E	14	
14 00 15 00	4.20	SE	8 6		20	4.23			
16 00	4.05 3.97	ESE ESE	6		30 40	4.2I 4.20			
17 10	3.81	ESE	6	S. W. S.	50	4.19			S. W. S.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
		May 9, 190	04	1			May 10, 19	D4	
h m	Feet		Miles		h m	Feet		Miles	
15 00 16 05	4.17 4.08	E E	13 14	S. W. S.	16 00 17 00	4.20 4.11	SE SSW	I I	S. W. S.
17 00	3.98	ESE	13		18 00	3.92	S	3	
18 00	3.85 3.74		9		19 00 20 00	3.78 3.62	SW N	I	
19 00	3.73	S	9		10	3.бі		-	0.117.0
50 20 00	3.64 3.63	N	4		20 30	3.60 3.59			S. W. S. R. R. T.
10	3.63L		•	CWC	40	3.58			
20 30	3.63 3.64	E		S. W. S. J. V.	2I 00	3.58 3.56	ESE	2	
40	3.68 3.68	NE			10 20	3.54L, 3.57			
50 21 00	3.69	E	3		30	3.57			
22 00 23 I5	3.73 3.88	E E E E	<b>4</b> 4		40 50	3·57 3·58			
24 00	3.95	Ē	3	J. V.	22 00	3.59	E	3 6	
Tide :	gauge read	ing of B.	M. No. 1	at 9:00 was	23 00 24 00	3.63 3.77	ESE ESE	6 9	R. R. T.
	35 feet.							-	day is 14.6
		Мау 10, 1	1904		feet.	auge reau	ng or b. h	1. NO. 1 to	day is 14.0
I 00	4.05	E	4	J. V.			May 11, 1	904	
20 30	4.07 4.07	~			1 00	3.93	ESE	II	R. R. T.
40	4.07 4.08	NE			2 00	4.04	ESE	II	
50 2 00	4.00	1417	2		3 00	4.10 4.11	É	11	
15 <b>3</b> 0	4.10 4.10H				10 20	4. 14 4. 14H			
45	4.10				30	4.14			
3 00 10	4.09 4.08		2		40 50	4.13 4.13			
20	4.06				4 00	4.13	Ę	15 16	
<b>30</b> 4 <b>0</b> 0	4.02 4.00		10		5 00 6 00	4.09 3. <b>9</b> 9	E E E E E E	13	
5 00 6 00	3.92	E E E	11		7 00 8 00	3.82 3.70	Ė	15 16	
7 00	3.79 3.69	Ë	10		9 00	3.59	Ĕ	17	R. R. T.
8 00	3.67 3.61		II	J. V. S. W. S.	10 20	3·59 3·58			S. W. S.
30	3.60			D. 111 D.	30	3 57			
40 50	3·59 3·59L,				40 50	3.56 3.56L			
9 00	3.60	E	II		10 00	3.56	SE	19	
10 20	3.61 3.61				10 20	3·57 3·57			
30	3.62	ਲਵਲ	***		30	3.59	SE	20	
10 00 11 00	3.67 3.82	ESE	I2 I2		II 00 I2 00	3.67 3.77	ESE	20 18	
12 00	3.95	ESE	12 10		I3 00 I4 00	4.0I 4.20	ESE SE	14 14	
13 00 14 00	4.10 4.21	ESE ESE ESE	6		15 00	4.22	ESE	12	
10	4.23	SE S S S			10 20	4.22 4.23		I	
20 30	4.23 4.23	Š			30	4.25			
40	4.24H	S			40 50	4.26 4.26H			
50 15 00	4.24 4.23		3		16 00	4.24	SE	13	
10	4.23			S. W. S.	10 20	4.24 4.23			S. W. S.
20	4.22			P PI		T U			D: 11. D

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
		May 11, 19	104		[		May 12, 19	04	
h m	Feet		Miles		h m	Feet		Miles	
16 30	4.23		171 116 3	S. W. S.	20 00	3.93		18	R. R. T.
17 00 18 00	4.23 4.14	ESE E	12 9		2I 00 22 00	3.70 3.54	E	15 17	
19 00	3.91	ESE E	12 14	S. W. S.	10 20	$3 \cdot 53$		·	
20 00 21 00	3·73 3·59	Ë	11	W. J. P.	30	3.51 3.50			
10 20	3.56 3.55				40 50	3.50 3.50			
30 40	3.51 3.51				23 00 10	3.50 3.49L	ENE	19	
50 22 00	3.50 3.48		10		20 30	3.50 3.51			
10	3.47L		10		40	3.51			
20 31	3.48 3.49				24 00	3.52 3.54	NE	16	R. R. T.
40 50	3.50 3.50						Мау 13,	1904	
23 00 24 00	3.52 3.60		12 4	W. J. P.	I 00 2 00	3.69 3.93	NNE NNW	14	R. R. T.
•	Ü	May 12,	•	•	3 00	4. 18	SSW WNW	5 8 6	
T 00	3.80	ENE		R. R. T.	4 00 50	4·35 4·44			
I 00 2 00	4.02	Calm	4 4	R. R. T.	5 00	4·47 4·47	SW	5	
3 00 30	4.16 4.20	Calm Calm	2	J. S. V. J. S. V.	30	4.48 4.48H			
40 50	4.22 4.24	NW		J. V.	40 50	4·47 4·45			
4 00 10	4.26 4.26		3		6 00	4·45 4·43	NW	5	R. R. T.
20	4.29H				7 00 8 00	4.31	NW	3	J. V.
30 40	4.27 4.27				9 00	4.05 3.89	NW NNW	4 3	R. R. T. S. W. S.
50 5 00	4.25 4.25	NE	3		11 00	3.78 3.69	W	4 4	
6 oo 7 oo	4.19 4.00	NE Calm	2		10 20	3.68 3.65			
8 oo 9 oo	3.81 3.62	E ESE	7 10	J. V. S. W. S.	30 40	3.65L, 3.66			
40 50	3.58 3.58				50 12 00		NW	I	
10 00	3.58	E	6		10	3.71			
10 20	3.56 3.55L				13 00 14 00	3.96 4.22	E E E	<b>5</b> 5	
30 40	3 · 55 3 · 56				15 00 16 00	4.50 4.74	E E	5 4	
50 11 00	3.56 3.58	É	12		50 17 00	4.93 4.95	sw	3	
12 00 13 00	3.70 3.90	E E E	15 24		10 20	4.97 4.98		Ŭ	
14 00	4.17	$\widetilde{\mathbf{E}}$	16 18	S. W. S.	30	4.98H			
15 00 16 00		E	20	R. R. T.	50	4.94	7-1		
10 20	4.50				18 00	4.90	E	3	
30 40					19 00 20 00	4.61 4.32	SW W	3 2	S. W. S.
50 17 00	4.50		18		2I 00 22 00		ENE SW	ī I	R. R. T.
18 00	4.49		1 16		50 23 00	3.62	NNW		
19 00		E	21	R. R. T.	10		TATA AA	<b>I</b> :	R. R. T.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
		May 13, 19	04				May 15, 1	904	
h m	Feet		Miles		h m	Feet		Miles	
23 20 30 40 50	3.59 3.59L 3.59 3.60			R. R. T.	0 I0 20 30 40	3.45 3.46 3.47 3.47			R. R. T.
24 00	3.60	ESE	2	R. R. T.	I 00	3.50	NNE	21	
		May 14, 1	1904		2 00 3 00	3.70 4.06	NNW N	20 19	
0 I0 I 00 2 00 3 00	3.61 3.74 3.98 4.31	NE NNE NNE	4 8 4 8	R. R. T.	4 00 5 00 20 30 40	4.21 4.70 4.73 4.75 4.79	NNE N	18 18	
4 00 50 5 00 10 20	4·54 4·72 4·75 4·79 4·80	NNE NNE	7		50 6 00 10 20	4.81 4.82 4.83 4.84	NNE	19	
30 40 50 6 00	4.80 4.80 4.80 4.81H	NNE	7		30 40 50 7 00 10	4.86H 4.85 4.84 4.82 4.81	N	20	
10 20 30 40	4.81 4.80 4.79 4.79	N/ N/ N/	8		8 00 9 00 10 00 11 00	4.67 4.30 4.02 3.82	N N N N	21 18 15 18	R. R. T. S. W. S.
7 00 8 00 9 00 10 00 11 00	4.73 4.51 4.21 4.01 3.81	NNW NNE NW NNE	5 0 1 2	R. R. T. S. W. S.	50 12 00 10 20	3.73 3.72 3.72 3.70	N N	19	
20 30 40 50	3.80 3.80 3.80 3.80	NE	2		30 40 50 13 00	3.70L 3.70 3.71 3.73		22	
12 00 10 20 30 40	3.79L 3.80 3.80 3.82 3.84		I	3	10 14 00 15 00 16 00 17 00	3.75 4.01 4.41 4.72 4.95		22 24 21 20	S. W. S.
13 00 14 00 15 00 16 00	3.91 4.13 4.43 4.61	NNE NNE NNE NNE	0 17 16 17	C III C	18 00 10 20 30 40	5.06 5.08 5.10 5.12 5.13H		16	W. J. P.
17 00 20 30 40	4.89 4.90 4.90 4.93	NNE NNE NNE NNE NNE	17	S. W. S. J. V.	50 19 00 10 20	5.12 5.10 5.08 5.03		17	W. J. P. S. W. S.
50 18 00 10 20 30	4.95 4.95H 4.93 4.90 4.89	NNE NNE NNE	14 ·		20 00 21 00 22 00	5.00 4.89 4.53 4.17	N N N	20 28 33	S. W. S. J. V.
40 19 00 20 00 21 00	4.85 4.78 4.50 4.12	NNE NNE NNE NNE	18 19	J. V. S. W. S. S. W. S. R. R. T.	23 00 24 00	3.81 3.61	N N May 16,	29 <sup>,</sup> 23 1904	J. V.
22 00 23 00 40 50	3.81 3.56 3.44 3.44	N NNE	17 16		0 10 20 30	3.59 3.59 3.58	N N N		J. V.
24 00	3.43L		15	R. R. T.	40 50	3·55 3·53L	N N		
Tide a		ing of B. M	I. No. 1 is	14.60 feet at	I 00	3·53 3·55	N '	14	J. V.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
	]	May 16, 19	04	<u>' </u>		,	May 17, 19	04	· <u> </u>
h m	Feet		Miles		h m	Feet		Miles	
I 20	3.59			J. V.	7 20	5.03			J. V.
30	3.61	N N			30	5.05	N		
40 2 00	3.66 3.69	N N	13		8 oo	5.05 5.06H	N	13	J. V.
3 00	3.96	N	13		10	5.04		-5	S. W. S.
4 00	4.32	N N	14 16		20	5.03			
5 00 6 00	4.69 4.93	NNE	16		30 40	5.00 4.95			
30	4.97	N			9 00	4.84	NNW	12	
45 7 <b>0</b> 0	4.99 4.90H	N N	14		11 00	4.53 4.22	NNW NNW	13	
15	4.98	N	14		12 00	3.90	TATA AA	9 7 8	
30	4.98	N			13 00	3.99 3.82		8	
8 00 9 00	4.92 4.64	N N	15	<b>J. V.</b> S. W. S.	10 20	3.80 3.78			
10 00	4.04	Ň	13 18	D. W. D.	30	3.75L			
11 00	4.07	N	20		40	3.70			
12 IO 20	3.82 3.80	N	15		50 14 00	3.77 3.80		7 7	
30	3.80				10	3.82		,	
40	3.79L				15 00	4.02		4	
50 13 00	3.80 3.80	N	19		16 00 17 00	4. <b>2</b> 3 4.67	NE	4 6 6	S W S
10	3.82	-1	-9		18 35	4.90	ENE	6	S. W. S. R. R. T.
20	3.82	N.T	-0		19 00	5.05			S. W. S.
14 00 15 00	3.91 4.19	N NW	18		10 20	5.07 5.10			
16 00	4.59		16 16		30	5. 10H			
17 00	4.89	NW	18	S. W. S. R. R. T.	40	5.10 5.08			
18 00	5.10 5.11	IN AA	17	K. K. 1.	20 00	5.07	ENE	2	S. W. S.
20	5.15				10	5.05			S. W. S. R. R. T.
30 40	5. 18 5. 20				2I 00 22 00	4.90 4.63	ENE ENE	5	
50	5.20H				23 00	4. IO	NE	5 8 6	•
19 00	5.20		19	R. R. T.	24 00	3.74	E	5	R. R. T.
10 20	5.19 5.19			S. W. S.	Tide g	auge readi	ng of B. M	No Tie	14.64 feet at
30	5.18	N			18:0	D.		2 20	14.04 Teet at
20 00	5.09 4.82	N N	18	S. W. S.			3.5		
2I 00 22 00	4.38	N	16 11	J. V.	:		May 18, 1	904	•
23 00	4.01	N	14		0 50	3.51			S. W. S.
24 00	3.70	N	10	J. V.	1 00	3.47	E	8	
		May 17, 1	904		10 20	3.44 3.42	i		•
I 00	3.58	N	8	J. V.	30 40	3.40 3.39			
10	3.57			-	50	3.38			
20 30	3⋅54 3⋅ <b>53</b> _				2 00	3.37L	ENE	4	
40	3.53L				10 20	3.38 3.39			
50	3.54	λt	_		30	3.40	*		
2 00 10	3.56 <b>3.5</b> 9	N	6		40 3 00	3.41	E	-	
20	3.61		_		4 00	3·49 3·73	NE	5 5	
3 00	3.78	NNW	8 8		5 00 6 00	4.12	Calm		
4 00 5 00	4.19 4.51	N	8 12		7 00	4.50 4.72	N	6	
6 00	4.80	N	11		20	4.77			
7 00 10	5.01 5.02	N N	12	J. V.	30	4.80	,		AL
10	3.02	74 '	-	J. V.	40	4.81			S. W. S.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
	I	May 18, 19	04			1	May 19, 19	04	
h $m$	Feet		Miles		h m	Feet		Miles	
7 50 8 00 10 20	4.83 4.87 4.87H 4.87	NNE	10	S. W. S.	8 20 30 40 50	4.99 5.04 5.06H 5.04			J. V. W. J. P. W. J. P. S. W. S.
30 40 50	4.86 4.84 4.83				9 00 10 20	5.04 5.02 5.00	NE	24	
9 00 10 00 11 00 12 00 13 00	4.81 4.63 4.27 4.00 3.80	NNE N NNE NE NE	IO II I2 II IO		10 00 11 00 12 00 13 05 14 00	4.96 4.61 4.35 4.06 3.90	NE NE NE N	21 21 13 7 14	1
30 40 50 14 00	3.71 3.69 3.69 3.68 3.68L	N	10		10 20 30 40 50	3.88 3.86 3.84 3.83 3.83L	N	·	
20 30 40 50	3.69 3.70 3.71 3.71	N.			15 00 10 20 30 16 00	3.83 3.84 3.85 3.85	N N	16	
15 00 16 00 17 05 18 00 19 00	3.72 3.99 4.35 4.69 4.95 4.98	N NW N N NW	9 9 11 8 6		17 00 18 00 19 00 20 00	3.90 4.14 4.48 4.76 4.92 4.93	N N N N	17 17 18 18 15	S. W. S.
40 50 20 00 10 20 30	5.00 5.03 5.05 5.06 5.09H 5.08	NNW	3	S. W. S. W. J. P.	20 30 40 50 21 00 10	4.93 4.96 4.99 5.00 5.01H 5.00	N	17	R. R. T.
40 50 21 00 22 00 23 00 24 00	5.08 5.06 5.04 4.82 4.42 4.05	W W NE N	4 1 1 7	W. J. P.	20 30 40 22 00 23 00 24 00	5.00 5.00 4.99 4.91 4.69 4.27	N N N	16 14 16	R R.ፕ.
		May 19, 1	904				May 20, 1	904	
1 00 30 40 50	3.76 3.63 3.60 3.58	N NW	<i>7</i> 5	J. V.	I 00 2 00 I0 20	3.92 3.64 3.58 3.54	N NNE	13 10 8	R. R. T.
2 00 10 20 30 40 50	3.58 3.55 3.54 3.52 3.50L, 3.50	Δ	1	i	30 40 50 3 00 10 20	3.52 3.50 3.50 3.49 3.49L 3.49	NW	6	
3 00 10 20 30 4 00	3.51 3.52 3.53 3.59 3.68	N N NNE	4 7 11	•	30 40 4 00 5 00 6 00	3.50 3.50 3.51 3.71 4.04	NNE NNW NNW	7 7 7 7	
5 00 6 00 7 00 8 00	4.01 4.37 4.72 4.94	N N NNE NE	11 17 20 23		7 00 8 00 40 50	4.36 4.63 4.77 4.80	N NNW	7	R. R. T. S. W. S.
. 10	4.99	NE		J. V.	9 00	4.82	NE	7	S. W. S.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local time mean	Reading of tide staff	Wind direction	Velocity	Observer
		May 20, 19	04				May 21, 19	04	<u>,</u>
h m	Feet		Miles		h m	Feet		Miles	
9 10	4.85			S. W. S.	10 00	4.79 4.80H	NNE	8	S. W. S.
20 30	4.87 4.87				10 20	4.79			
40	4.88 4.88H				30	4.78			
50 10 00	4.87	N	10		40 50	4.78 4.77			
10 20	4.85 4.84				II 00 I2 00	4.77 4.68	NE NE	21 27	
30	4.82			İ	13 00	4.44	NE	25	
II 00 I2 00	4.76 4.47	NNE NNE	4 14		14 00 15 00	4.25 3.92	NE	29 24	
13 00	4.47		17	İ	30	3.82	ı	24	
14 00 15 00	3.95 3.80	NE NE	16 12		40 50	3.81 3.80			
10	3.79	1114	12		16 00	3.79	NE	12	
20 30	3.79 3.78				10 20	3.78 3.78L			
40	3.774				30	3.78			
50 16 00	3.78 3.78	NE	7		40 50	3.78 3.79			
10	3.79 3.81		•		17 00	3.79 3.87	E ENE	9	
20 17 00	3.01	NNE	8		19 00	4.13	E	11 10	
18 00	4. 18	NNE NNE	8		20 00 2I 00	4·35 4·54	Ë ENE	9	S. W. S. J. V.
19 05 20 00	4·35 4.69	NNE	5 3	S. W. S.	22 00	4.67	E	3 12	J. V.
21 03 10	4.80 4.85			W. J. P.	10 20	4.68 4.69	E E		
20	4.86				30	4.69	NE		
30 40	4.87 4.88				40 50	4.70 4.71H			
50	4.88H	T13.774		W. J. P.	23 00	4.70	NE	12	
22 00 IO	4.88 4.88	ENE	4	R. Ř. T.	10 20	4.69 4.67			
20	4.87				30 24 00	4.63 4.58	NE		T 17
30 23 00	4.81 4.72	E	7 8		24 00	4.30	1414	11	J. V.
24 00	4.49	E	8	R. R. T.			May 22, 1	1904	
		May 21,	1904		I 00	4.36	ENE	12	J. V.
1 00	4.14	ESE	9	R. R. T.	2 00 3 00	4.05 3.80	ENE	11 11	
2 00 3 00	3.86 3.61	ENE E	9 9		4 00	3.63	ENE	11	
10	3.60		9		20 30	3.62 3.60			
20 30	3.59 3.59				40 50	3.59 3.60			
40	3.59 3.58				5 00	3.60	ENE	9	
50 4 00	3.56 3.54L	E	9		10 20	3.58L, 3.60			
10	3.56				30	3.60			
20 30	3.56 3.57				40 50	3.63 3.63			
40 5.00	3.59 3.62	Ŧ	12		6 00	3.66	E	9	_J. V.
5 oo 6 oo	3.85	E E E SE	11 13		7 00 8 00	3.87 4.20	ENE ENE	8	R. R. T.
7 00 8 00	4.10 4.42	E SE	15 13	R. R. T.	9 00	4.39	ENE	15	S. W. Ş.
9 00	4.64	SE	9	S. W. S.	10 00	4.60 4.69	NE	20	
30 40	4.76 4.78				40 50	4.71 4.73			
50	4.79			S. W. S.	11,00	4.74	NE	24	S. W. S.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

T - 1	D 1'					D	1		
Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
		May 22, 19	04				May 23, 19	004	
h m	Fect		Milcs		h m	Feet		Miles	
11 10	4.76			S. W. S.	13 00	4.64	NNE	12	S. W. S.
20 30	4·77 4·77H				14 00 15 00	4.58 4.36	NNE NNE	14 16	
40	4.76				16 00	4.16	NNE	17 18	
50 12 00	4.76 4.74	NE	31		17 00	3.96 3.94	NNE	18	
13 00	4.61	NE NE NE NE	34		20	3.90 3.88			C W/ C
14 00 15 00	4.42 4.18	NE.	31 35 38		30 40	3.83			S. W. S. R. R. T.
16 00 17 00	3.98 3.86	NE NE	<b>38</b> 39		18 oo	3.80 3.79	NNE	12	
10	3.84	1414	39		10	3.79	111112	1.44	
20 30	3.82 3.82L				30	3.76 3.72L			
40	3.86				40	3.73			
50 18 00	3.86 3.90	NE	37		19 00	3·73 3·74	NE	24	
19 00	3.98	NE	41	S. W. S.	10 20 00	3.75 3.81	NNE	23	R. R. T.
20 00 21 00	4.21 4.38	NE	39 40	J. V.	21 00	3.96	NNE	3I	S. W. S.
22 00 23 00	4·54 4·60	NE NE	38 38		22 00 23 00	4.15 4.29	NNE NNE	30 23	J. V.
50	4.62	1114		T 77	24 00	4.44		27	J. V.
24 00	4.63		38	J. V.	Tide g	gauge readi	ing of B. M	A. No. 1 is	14.67 feet at
		May 23,	1904		13:0				
0 I0 20	4.64	NE		J. V.			May 24,	1904	
30	4.66 4.68H				1 00	4.50	NNE	20	J. V.
40 50 ·	4.67 4.67				10 20	4.51 4.52			
I 00	4.65	NE	42		30	4.53H			
10 25	4.65 4.62				40 50	4.5I 4.50	NE	35	
30 2 00	4.58	NE NE NE NNE	45		2 00	4.49	NNE	35 38 28	
3 00	4.39 4.16	NE	45 45		4 00	4.29 4.30	NNE	31	
4 00 5 00	$\frac{3.95}{3.82}$	NNE NNE	43 44		5 00	3.90 3.76	NNE NNE	25 17	
30	3.77	211124	77		30	3.70	N N	-7	
40 50	3·75 3·72				40 50	3.67 3.66	N		
6 00	3.72_	NNE	38		7 00	3.65	N	19	
10 20	3.72L 3.72				10 20	3.65L 3.66			
30	3.73				30	3.66			1
40 50	3.74 3.76				40 50	3.66 3.68			
7 00 8 00	3.77	ENE ENE	33 28	J. V.	8 00	3.71 3.81	NNE NNE	8	J. V.
9 00	3·97 4·18	NNE	28	s. w. s.	10 00	4.03	NNE '	II	S. W. S.
10 00	4.48 4.56	W N	21 <b>13</b>		II 00 I2 00	4·35 4·49	NNE '	, 9 9	
40	4.63	-1	-0		30	4.52		9	
50 12 05	4.65 4.66	NNE	10		40 50	4·54 4·56	*		
10	4.66H				13 00	4.59	NNE	11	
20 30	4.66 ° 4.65				10 20	4.60H 4.59			
40	4.65			<b>S</b> . W. S.	30	4.59 4.58			e tere
50	4.64			D. W. D.	ll 50	4.50			S. W. S.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observ <b>er</b>
		May 24, 19	904				May 25, 19	004	
h m	Feet	»III»	Miles	0.111.0	h m	Feet	707	Miles	
14 00 15 00	4·57 4·51	NE	13 <b>15</b>	S. W. S.	9 00	3·47 3·49	ESE	12	S. W. S.
16 00 17 00	4.31 4.06		15 12		10 00 11 05	3·59 3·83	SE SE	11 13	
18 00	3.91		12	0 111 0	12 04	4.09	SE	14	
30 40	3·79 3·74			S. W. S. W. J. P.	13 00 14 00	4.26 4.39	SE SE	<b>I</b> 4 I4	
50 19 00	3.70 3.68	NE		-	10 20	4.4I 4.43			
10	3.67	Calm			30	4.45			
20 30	3.65 3.63				40 50	4·47 4·4 <b>8H</b>			
40 50	3.61 3.58				15 00 10	4 · 47 4 · 47		17	
20 00	3.56		10		20	4.46			
10 20	3. <b>56</b> 3.56				30 16 00	4·45 4·40	SE	18	
30 40	3.56L 3.57			W. J. P.	17 00	4.20 3.95	SE SE	16 16	
50 21 00	3.57	NE	•	R. Ř. T.	19 00 20 00	3.69	SSE S	17	
10	3 · 59 3 · 59	14 12,	9		10	3.48 3.45	b	16	
20 30	3.60 3.61			1	20 30	3.42 3.39			S. W. S.
22 00 23 00	3.70 3.89	NE ENE	6 6		40 50	3.36			J. V.
24 00	4.08	E	4	R. R. T.	21 00	3.34 3.31L	S	15	
		Man of a			10 20	3.31 3.33			
		May 25, 1	.904		30 40	3·34 3·34			
0 30 40	4. I3 4. I9			R. R. T.	50 22 00	3.35	c		
50	4.21	<b>T</b> 5			23 00	3·37 3·50	S S S	17 17	
10 1 00	4.26 4.27	E	4		24 00	3.73	S	17	J. V.
20 30	4.28 4.28						May 26, 19	904	
40	4.29				1 00	3.78	S	17	J. V.
50 2 00	4.30 4.30	ESE	4		2 00 20	4.21 4.26	S S	17 16	J. V.
10 20	4.30 4.31				30	4.27			
30	4.31H				40 50	4.29 4.30			
40 50	4.30 4.30				3 00 10	4.31 4.32	S	14	
3 00 10	4.30 4.30	E	5		20	4.32			
20 30	4.29 4.28				30 40	4·35 4·35			
40	4.25				50 4 <b>0</b> 0	4.39H 4.38	s	T-2	
4 <b>0</b> 0 5 00	4.20 4.00	NE ESE	4 2		10	4.35	D	13	
5 00 6 00 7 00	3.76 3.60	SE ESE	4 2 3 8		20 30	4·33 4·32	_		
50	3.50				5 00 6 00	4.24 3.98	S S S SSE	14 14	
8 00	3.49 3.49	SE	9	R. R. T.	7 <b>00</b> 8 00	3.83 3.65	Ş	15	
20 30	3·45 3·45L			S. W. S.	9 00	3.54	SSE	16 16	J. V. S. W. S.
40	3.46			S. W. S. S. W. S. J. V. J. V.	10 20	3 · 54 3 · 53_			
50	3 · 47			J. V.	30	3.53L		t	S. W. S.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
		May 26, 19	104			]	May 27, 19	04	
h $m$	Feet		Miles		h m	Feet		Miles	
9 40	3.55			S. W. S.	10 30	3.78			S. W. S.
50 10 <b>0</b> 0	3·55 3·58	SE	15		40 50	3.78L, 3.78			
IO	3.59				11 00	3.79	E	23	
II 00 I2 04	3.72 3.96	SE SSE	17 16		10 20	3.79 3.81			
13 00	4.24	SE	16		12 06	4.00	ESE	21	
14 00 15 00	4.52	SE SE	16		13 00 14 00	4.25 4.56	E F	21	
15 00	4·73 4·75	DL4	14		15 00	4.82	E E E	23 23	
20	4.76				16 00	4.99	E	22	
30 40	4.77 4.78				10 20	5.01 5.03			
50	4.79	0			30	5.04			0 111 0
10 00	4.79H	S	14		40 50	5.04 5.01			S. W. S. J. V.
20	4.79 4.78				17 00	5.05		22	W. J. P.
30 40	4. <i>7</i> 8	CE.	12		10 20	5.05H 5.02			J. V. W. I. P
17 00	4·77 4·73	SE SE SE	12		30	5.02			W. J. P. J. V.
18 07	4.50	SE			40	5.00			W. J. P. J. V.
19 00 20 00	4.20 3.92	SE SE	13 12	S. W. S.	18 00	4.98 4.95	E	17	Ŵ. J. P.
21 00	3.69	SE	1.2	R. R. T.	10	4.91		-	J. V.
20 30	3.63 3.61				19 00 20 00	4.6.1 4.34		15 17	S. W. S. S. W. S.
40	3.60				21 00	3.94		14	S. W. S. R. R. T.
50 22 00	3.58	ESE	T 2		22 00 10	3.69 3.63	ESE	10	
10	3·54 3·53L	LOL	13		20	3.61			
22	3.54				30	3.60			
30 40	3·55 3·57				40 50	3·57 3·55			
50	3.59	Han	12		23 00	3.52	SE	8	
23 00 24 00	3·59 3·71	ESE	13 13	R. R. T.	10 20	3.52L, 3.53			
-4 00	3.7.2		J	227 227 23	30	3.53			
		May 27,	1904		40 50	3·53 3·56			
I 00	4.00	ESE	II	R. R. T.	24 00	3.59	SE	7	R. R. T.
2 00 3 00	4.3I 4.57	SE E	12 13				May 28, 1	1004	
30	4.68	14	13					1904	
40	4.70				1 00	3.79	SE	6	R. R. T.
50 4 00	4.7I 4.7I	ENE	15		2 00 3 00	4.11 4.41	SSE S	6 6	
10	4.73 4.78				4 00	4.69	-	8	
20 30	4.78 4.78				30 40	4.80 4.83			
40	4.78 4.80				50	4.87			
50	4.80H	E	20		5 00	4.88	SW	5	
5 00 10	4.80 4.79	14	20		10 20	4.90 4.91			
20	4.79				30	4.91H		ŧ	* .
30 6 00	4. <i>77</i> 4. <i>7</i> 0	E	20		40 50	4.91 4.90		1	1.5
7 00	4.42	NE	. 22	D 15 /5	6 00	4.89		3	. , 1/2, O&
8 oo 9 oo	4.18 3.92	E E E	23 21	R. R. T. S. W. S.	7 00	4.86 4.74	ssw	6	CAS
10 00	3.92	Ē	24	D. 11. D.	8 00	4.42	se	4 6	R. R. T.
IO	3.79				9 00	4.14	S SE	6	S. W. S. S. W. S.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
		May 28, 19	004				May 29, 19	04	
h m 11 02 10 20 30	Feet 3.80 3.79 3.78 3.78	SE	Miles 4	S. W. S.	h m 9 00 10 00 11 00 40	Feet 4.60 4.26 4.06 3.96	SE SE SE	Miles 7 7 8	S. W. S.
40 50 12 00 10 20 30	3.77 3.77L 3.77 3.79 3.79 3.81	SE Calm			50 12 00 10 20 30 40	3.94 3.92 3.92L 3.92 3.93 3.96	SE		
13 00 14 00 15 00 16 00 17 00 10 20	3.92 4.28 4.70 5.01 5.22 5.24 5.25	SE SE SE SE	1 5 7 10 12		13 00 14 00 15 00 16 00 17 00	3.98 4.01 4.20 4.60 4.93 5.20 5.23	SSE SSE SE SSE SE	13 16 14 11	
30 40 50 18 00 10 20 30	5.27 5.27 5.28H 5.27 5.23 5.20 5.20	SE	12	S. W. S. J. V.	20 30 40 50 18 00 10 20	5.26 5.30 5.30 5.35 5.36 5.36H 5.36	Calm		S. W. S. W. J. P.
40 50- 19 00 20 00 21 00 22 00 23 00 10 20	5.18 5.12 5.10 4.72 4.35 4.00 3.75 3.71 3.69	SE SE SE SE SE	16 15 15 19	J. V. S. W. S. R. R. T.	30 40 50 19 00 10 20 20 00 21 00 22 00	5.35 5.35 5.35 5.31 5.29 5.26 5.06 4.66 4.25	EEE	2 1 3 9	W. J. P. J. V.
30 40 50 24 00	3.66 3.61 3.61L 3.61	E May 29, 1	17	R. R. T.	23 00 20 30 40 50 24 00	3.88 3.82 3.80 3.75 3.70 3.68	E E	13	J. V.
0 I0 20	3.61 3.62			R. R. T.	Tide g	auge readii	ng of B. M	No. 1 at	9:00 is 14.69
30 I 00	3.65 3.71	ESE	14				Мау 30, 1	904	
2 00 3 00 4 00 5 00 10 20	4.00 4.39 4.78 5.03 5.08 5.10	E ESE E ENE	16 18 20 22		0 00 10 20 30 40	3.68 3.66 3.64 3.62 3.62L	E.	I	J. V.
30 40 50 6 00	5.13 5.18 5.20 5.20	ESE	25		50 I 00 I0 20	3.64 3.66 3.67 3.69	E	16	
10 20 30 40	5.20 5.20 5.20H 5.20 5.20	101	<b>~</b> J		2 00 3 00 4 00 5 00	3.81 4.11 4.59 4.91	S ESE ESE SW	7 9 7 4	,
50 7 00 10 8 00	5. 19 5. 17 5. 14 4. 96	E SE	18 12 7	R. R. T.	50 6 00 10 2 20	5.14 5.15 5.18 5.20	SW Calm	2	J. V.
V			•	'	4.7	-			J. V.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
		May 30, 19	04				May 31, 19	004	
h m 6 30 40 50 7 00	Feet 5.22 5.22 5.23 5.23	ESE	Miles	J. V.	h m 6 10 20 30 40	Feet 4.90 4.91 4.93 4.98		Miles	J. V.
10 20 30 40 50	5.25 5.27H 5.24 5.22 5.20	waw			50 7 00 10 20 30	5.00 5.05 5.07 5.12 5.12H		10	
9 00 10 00 11 00	5.19 4.88 4.49 4.20	WSW W W W	9 9 9	J. V. S. W. S.	40 50 8 00 10	5.11 5.10 5.09 5.07	SSW SW	11	J. V. S. W. S.
12 00 40 50 13 00 20	4.00 3.92 3.92 3.92 3.92L	W	9		9 00 10 04 11 00 12 00 40	4.94 4.61 4.30 4.04 3.90	SW SW SW	10 8 6	5. W. 5.
30 40 50 14 00	3.93 3.95 3.97 4.00	W	8	S. W. S. R. R. T. R. R. T. S. W. S.	13 00 10 20 30	3.87 3.84 3.82 3.82L			
15 00 16 00 17 00 18 00	4.25 4.67 5.02 5.25	SSW W SW SW	8 7 8 12		40 50 14 00 10	3.83 3.84 3.85 3.86	SSW	7	
40 50 19 00 10 20	5.34 5.36 5.36 5.36 5.36H	W	14		15 00 16 00 17 00 18 00 40	3.96 4.32 4.69 4.91 5.07	SSE S SW	9 4 4 1	
30 40 50 20 00	5.34 5.30 5.28 5.25	SW	13	S. W. S. R. R. T. S. W. S.	50 19 00 10 20	5.09 5.10 5.10 5.14_	sw	3	•
21 00 22 00 23 00 24 00	4.90 4.46 4.05 3.73	SW S S	14 14 14 13	S. W. S. J. V. J. V.	30 40 50 20 00 10	5.14H 5.13 5.13 5.10 5.10	SSE	I	S. W. S.
		May 31,	1904		2I 00 22 00	5.00 4.66		3 4	W. J. P.
0 20 30 40	3.65 3.62 3.60			J. V.	23 00 24 00 At 4:0	4.25 3.97 50 ice press	NE	2 3 three-qua <b>r</b> t	W. J. P. R. R. T. ers of a mile
50 I 00 I0 20	3·59 3·57 3·54 3·53	SSW	12		fron	n shore, so	June 1,	orthwest d	lirection.
30 40 50 2 00 10	3.53L, 3.53 3.55 3.58 3.60	ssw	13		0 50 1 00 10 20	3.63 3.60 3.58 3.54	Calm		R. R. T.
20 30 3 15 4 00	3.61 3.63 3.82 4.12	SSW SSW	11 12		30 40 50 2 00 10	3.51 3.51 3.50 3.49	WNW	2	
5 00 50 6 00	4.56 4.81 4.83	SSW SSW	I I2	J. V.	20 30	3.49L, 3.50 3.51			R. R. T.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
	J	une 1, 190	4			J	June 2, 190	4	
h m	Feet		Miles		h m	Feet		Miles	
2 40	3.52			R. R. T.	3 20	3.54			J. V.
50 3 <b>0</b> 0	3·55 3·58		I		30 4 00	3·55 3·64	SE	16	
4 00	3.83	SE	I		5 00	4.00	NE	10	
5 00 6 00	4.2I 4.59	E E	4 4		6 00 7 00	4.40 4.70	NE NNE	7 7	
7 00	4.80	ENE	3		8 00	4.90	S	25	
30 40	4.91 4.93				10 20	4·94 4·97			
8 oo	4.96 4.98	E	3		30 40	4.99 4.99H			J. V. S. W. S.
10	4.99		3	D D W	50	4.99			D. W.D.
20 30	5.00H 4.98			R. R. T. S. W. S.	9 <b>0</b> 0	4.98 4.98	E	20	
40	4.99				20	4.96	T <sup>2</sup>		
50 9 00	4.98 4.97	E	7		II 00 IO 00	4.93 4.67	E E E	6 10	
10 03 11 00	4.71	E E E	<b>7</b> 6 6		12 00 13 00	4·39 4·12	E	28 26	
12 00	4.40 4.09		6		14 00	3. <b>9</b> 9	14	32	
13 00 40	3.83 3.75	E	5		10 20	3·97 3·95			
50	3.73	ATT?	o		30	3.93			
14 <b>0</b> 0 10	3.71 3.71	NE	8		40 50	3.92 3.92L			
20	3.70L				15 00 10	3.93 3.93	Ė	33	
30 40	3.72 3.73				20	3.94			
50 15 00	3·75 3·77	NE	10		30 16 00	3.94 3.98	E	<b>2</b> 6	
16 00	3.98	NE	10		17 00	4.24	E E	30	
17 00 18 00	4.33 4.69	ENE E	12 6		18 00	4·54 4·86		12 21	
19 00	4.84	ESE	4		20 00 IO	4·97 4·99		16	
40 50	4·95 4·97				20	4.99			
20 00 10	4.98 4.99H	W	4	S. W. S.	30 40	5.00 5.01	E		S. W. S. R. R. T.
20	4.98			J. V.	50	5.01	717		10.10.11
30 40	4.99 4.99				2I 00 I0	5.02 5.05H	E	15	
50 21 00	4.98	É	3		20 30	5.04 5.02	٠.	,	
Z1 00 IO	4.97 4.94	Ц	3		40	5.01			
20 22 00	4.90 4.78	N	3		50 22 00	5.00 4.97	E	22	
23 00	4.39	NE	9	T 37	23 00	4.69	E E	24	D D #
24 00	3.97	NE	7	J. V.	24 00	4.33	E	20	R. R. T.
		June 2, 19	904				June 3, 1	904	
* 00	2 60	NE	~	J. V.	I 00 2 00	4.01	ENE	12	R. R. T.
1 00 50	3.68 3·54		7	J. V.	30	3.79 3.70	E/IVE/	23	
2 00 10	3·53 3·52	NE	II		40 50	3.69 3.68			
20	3.51				3 00	3.66_	$\mathbf{E}$	27	
30 40	3.50 3.49L				10 20	3.64L, 3.66			
50	3.49	NE	T.4		30	3.67			
3 00 10	3.51 3.53	1417	14	J. V.	40 50	3.70 3.70			R. R. T.

Tabulation of tidal observations at Teplitz Bay, Rudolph Island

Local mean time	Reading of tide staff	Wind direction	Velocity	Observer	Local mean time	Reading of tide staff	Wind direction	Velocity	Observer
		June 3, 190	4				June 3, 19	004	
h m	Feet		Miles		h m	Feet		Miles	
4 00	3.71	E	23	R. R. T.	15 20	3.95L,			S. W. S.
5 00	3.90	ENE	21	20. 20. 2.	30	3.96			D. 111 D.
6 00	4.19	NE	23		40	3.96			
7 00	4.55	NE	10		50	3.97			
8 00	4.76	ENE	7		16 00	3.98	E E ESE	4	
30	4.84		•	R. R. T.	17 03	4.08	E	3	
40	4.88			S. W. S.	18 01	4.27	ESE	3	
50	4.91			R. R. T.	19 00	4.56	ESE	4 3 3 9	
9 00	4.94	SE	7	S. W. S.	20 00	4.78	ESE	9	
10	4.96				50	4.87			
20	4.96H				21 00	4.88	ESE	14	
30	4.95				10	4.88 4.88 4.88H 4.88			
40	4.93				20	4.88H			
50	4.92				30	4.88			
10 00	4.90	N	7		40	4.87			
II <b>0</b> 0	4.82	N S ESE	7 3 3		50	4.87	-		
I2 00	4.56	ESE			22 00	4.87	E	15	
13 00	4.28	NE	4		10	4.86			
14 00	4.06	SE	4		20	4.84			0.317.0
40	3.00				30	4.83			S. W. S.
50	3.99	ਲਵਦ	_		Tist.		of D 3	/ No + -+	0.00 ::-
15 00	3.99	ESE	5	CWC			ing or is. N	ı. No. ı at	9:00 is 14.7
10	3.98			S. W. S.	feet.	•			

### REDUCED READINGS

After adjusting the foregoing original readings of the tide staves to a uniform datum, both series were plotted on profile paper, and irregularities due to storms or mistakes were smoothed out. The smoothed curves were completed so as to fill small gaps in the record, and were then tabulated as hourly heights of the sea and also as high and low waters, the readings being cut down to tenths of feet, as shown in the following tables of hourly heights of the sea.

Hourly heights of tide, Cape Flora, Franz Josef Archipelago, Arctic Ocean

May and June, 1904

ny of mouth	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	,
Hours	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	$F_{\ell}$
О	*(6.1)	6.0	5.8	5.4	5.1	5.0	5-3	5.6	5 9	6.1	6.2	6.3	6.4	6.4		
ī	(6.2)	6.2	60	5.6	5.1	4.9	5.2	5.3	5.6	5.7	5.9	6.1	6.3	6.4	6.3	Ιì
2	(6.3)	6.3	6.2	5.7	5.2	4.9	5.1	5.1	5.4	5.5	5.6	5.8	6.0	6.2	6.2	
3	(6.2)	6.3	6.3	5.9	5.4	5.1	5.2	5.0	5.2	5-3	5.3	5.4	5.7	6.0	6.1	L
4	(6.0)	6.2	6.3	6.0	5.6	5.4	5.4	5.2	5.3	5.2	5.1	5.3	5.5	5.7	5.9	
5	(5.9)	6.0	6.1	6.1	58	5.6	5.7	5.5	5.5	5.2	5.1	5.1	5.4	5.6	5.6	
5 6	(5.7)	5.8	6.0	6.1	5.9	5.8	6.0	58	5.8	5-5	5.2	5 2	5.3	5-4	5.5	
7	(5.5)	5.6	5.9	6.0	5.9	6.0	6.3	ĕ. ī	· 6.2	5.8	5.6	5.4	5.4	5.4	5.4	
7 8	(5.5)	5.5	5.7	5.8	5.8	6.1	6.4	6.4	6.5	6.2	5.9	5.7	5.6	5.6	5.5	
9	5.6	5.6	5.6	5.6	5.6	6.0	б.4	6.6	6.7	6.5	6.3	6.0	6.0	5.8	5.6	
ΙÓ	5.9	5.7	5.6	5.5	5.5	5.8	6.2	6.6	6.8	67	6.6	6.4	6.3	6.0	5.9.	
11	6.2	5.9	5.7	5.5	5.4	5.6	6.0	6.4	6.7	6.8	6.8	6.7	6.6	6.3	6.1	3
Noon	64	6.2	5.9	5.6	5.3	5.5	5.8	6.2	64	6.7	6.8	6.8	6.7	6.6	6.3	i
13	6.6	6.5	6.1	5.7	5.3	5.4	5.7	5.9	6.2	6.4	6.6	6.7	6.8	6.7	6.5	(
14	6.7	6.7	6.3	5.9	5.5	5.5	5.6	5.8	6.0	6.1	6.3	6.4	6.6	6.6	6.6	(
15	6.6	6.7	6.4	6.0	5.7	5.6	5.6	5.7	5.8	5.9	6 0	6.1	6.4	6.4	6.4	
16	6.4	6.6	6.4	6.2	5.9	5.8	5.8	5 9	5.8	5.7	58	5.9	6.1	6.2	6.2	- (
17	6.2	6.4	6.3	6.3	6.6	6.0	6.0	6.6	5.9	5.7	5.7	5.7	5.9	6.0	6.0	
18	6.0	6.2	6,2	6.2	6.1	6.2	6.1	6.2	6.1	5.8	5.6	5.6	5.8	5.8	5.9	
19	5.8	6.0	6.0	6.0	6.0	6.3	6.3	64	6.3	5.9	5.8	5.6	5.7	5.7	5.7	è
20	5.7	5.8	5.8	5.8	5.9	6.2	6.4	6.6	6.5	6.1	6.0	5.8	5.8	5.7	5.6	
21	5.6	5.7	5.6	5.5	.5.6	6.0	6.3	67	6.6	6.3	6.2	6.0	5.9	5.7	5.6	į
22	5.7	5.6	5.4	5.3	5.3	5.8	6.1	6.5	6.6	6.4	6.4	6.2	6.1	5.9	5.7	
23	5.9	5.7	5.3	5.2	5.1	5.6	5.9	6.2	6.5	6.4	6.4	6.3	6.3	6.1	5.8	1

<sup>\*</sup>The values in parentheses are interpolated.

Hourly heights of tide, Cape Flora, Franz Josef Archipelago, Arctic Ocean—Continued
June, 1904

Day of month	6	7	8	9	10	II	12	13	14	15	16	17	18	19	20	21
Hours	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet		Feet	Feet	Feet	Feet	Feet
0	5.7	5.5	5.2	5.2	5.4	5.5	5.6	5.7	6.1	6.4	6.5	6.6	6.6	6.2	6.1	5.8
I	5.9	5.6	5.3	5.2	5.4	5.4	5.5	5.5	5.8	6. t	6.2	6.4	6.5	.6.4	6.2	6.1
2	6.0	5:7	5.4	5.4	5.4	5.3	5.3	5 3	5.6	5 8	5.8	6. r	6.3	6.3	6.3	6.3
3	6.0	58	5.5	5.6	5.6	5.4	5.3	5.2	5.5	5.6	5.6	: 58	6.0	6.1	6.2	6.4
4	5.9	5.8	5.7	5.7	5.8	5.6	5.5	5.4	5.5	5.5	5-4	5-5	5-7	5.8	6.1	6.4
5 6	5.8	5.8	5.7	5.9	6.0	5.9	5.7	5.6	5.6	5.5	5.2	5.3	5.5	5.6	6.0	6.3
	5.7	5.7	5.7	6.0	6.2	6.2	60	5.8	5.9	5.8	5.3	5.3	5.4	5.5	5.8	6.1
.7 .8	5.6	5.6	5.6	6.0	6.3	6.4	6.3	6.2	6.2	6.1	5.6	5.4	5.4	5.3	5.6	5.9
.8	5.5	5.5	5.6	5 9 5.8	6.3	6.5	6.5	6.5	6.6	6.4	5 9	5.7	5.6	5.3	5.5	5.8
9	5.5	5.4	5.5	5.8	6 2	6.5	6.6	6.7	6.9	6.7	6.3	61	5.9	5.5	5.6	5.7
IO	5-5	5.4	5.4	5.8	6.1	64	6 5	6.7	7.0	6.9	6.6	6.4	6.2	5.8	5-7	5.8
II	5 7	5.5	5 4	5.7	6.0	6.3	6.4	6.6	69	7.0	6.8	6.8	6.5	6.1	6.0	5.9
Noon	5.9	5.6	5.5	5.7	5.9	6.1	6.2	64	6.8	6.9	6.9	6.9	6.8	6.4	6.3	6 1
13	6.1	5.7	5.6	5.7	5.9	6.0	6.0	6.2	6.5	6.7	6.7	6.9	6.9	6.6	6.6	6.4
14	6.2	5.9	5.8	5.9	5.9	5.9	5.9	6. t	6.3	6.4	6.4	6.7	6.7	6.7	6 7	6.6
15 16	6.3	6.0	5.9	6.0	6.0	6.0	5.8	6.0	6.2	6.2	6.2	63	6.5	6.6	6.7	6.7
	6.2	6.0	6.0	6.1	6.1	6.1	5.9	6.0	6.1	6.0	5.9	6.1	6.2	6.3	6.6	6.
17 18	6.1	6.0	6. r	6.2	6.2	6.2	6.1	6.1	6.1	5.9	5.8	5.8	5.9	5.9	6.3	6.6
18	5.9	5.8	6.0	6.3	6.3	6.4	6.2	6.4	6.3	6.0	5.7	5.6	5.6	5.7	6.0	6.3
19	5.7	5.7	5.9	6.2	6.3	6.5	6.4	6.5	6.5	6.2	5.8	5.6	5.5	5.5	5.8	6.0
20	5.6	5 5	5.7	6.1	6.3	6.5	6.5	6.6	6.7	6.3	6.0	5.7	5 5	5.4	5.6	5.8
21	5-5	5.4	5.6	5.9	6.1	6.3	6.4	6.7	6.8	6.5	6.2	5.9	5.7	5.4	5.5	5 6
22	5.4	5.2	5.4	5 7	5.9	6.1	6.3	6.7	6.8	6.6	6.4	6.2	5.9	5.6	5.5	5.5
23	5.4	5.2	5.3	5.5	5.7	5.9	6.0	6.4	6.7	6.7	6.6	6.4	6.1	5.8	5.6	5.4

Hourly heights of tide, Cape Flora, Franz Josef Archipelago, Arctic Ocean—Continued
June and July, 1904

Day of month	22	23	24	25	26	27	28	29	30	I	2	3	4	5	6	7
Hours	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Fee
О	5.6	5.4	5.2	5.2	5.4	5.7	6.1	6.3	6.7	6.9	6.5	6.3	6.3	6.0	5.9	5.
I	5.8	5.5	5.2	5.1	5.3	5.5	5.8	6.1	6.4	6.8	6.5	6.4	6.4	6.2	6.0	6
2	6.0	5.7	5.3	5. I	5.2	5.3	5.6	5.8	6,2	6.5	6.3	6.4	6.4	6.3	6.1	6
3	6.2	5 9	5 5	5.3	5.2	5.2	5.4	5.7	6.0	6.2	6.1	6.2	63	6.3	6.2	6
4	6.4	6.1	5 8	5.6	5.4	5.3	5.4	5.5	5.8	6.0	5.8	6.0	6.1	6.2	6.2	6
5 6	6.4	6.3	6.0	5.9	5.7	5.6	5.5	5.6	5.7	5 9	5.7	5.8	5.9	6.0	6.1	6
6	6.3	6.3	6.2	6.1	6.0	5.9	5.8	5.7	5.8	5.8	5.6	5.7	5.8	5.9	6.0	6
7 8	6.2	6.3	6.3	6.3	6.3	6.2	6.1	6.0	6.0	6.0	5.6	5.6	5.8	5.8	5.9	6
8	6.r	6.2	6.2	6.4	6.5	6.4	6.4	6.4	6.3	6.2	5.7	5.7	5.7	5.8	5.9	6
9	5.9	6.o	6.1	63	6.5	6.7	6.7	6.7	6.6	6.5	6.1	5.9	5.9	5.8	5.9	6
IO	5.8	5.9	5.9	6.2	6.4	6.8	6.9	7.0	6.9	6.8	6.4	6.2	6.1	6.0	5.9	6
II	5.9	5.8	5.8	6.0	6.3	6.6	6.9	7.1	7.2	7.1	6.6	6.5	6.3	6.1	6.1	6
Noon	6.0	5.8	5.7	5.9	6.1	6.4	6.7	7.0	7.1	7.1	6.8	6.7	6.5	6.4	6.3	6
13	6.2	5.9	5.7	5.7	5.9	6.2	6.5	6.8	7.0	7.0	6.9	6.9	6.7	6.5	6.5	6
14	6.4	6.0	5.8	5.7	5.8	6.0	6.3	6.5	6.8	6.8	6.8	6.8	6.8	6.6	6.6	6
15 16	6.5	6.2	6,0	5.8	5.7	5.9	6.1	6.3	6.5	6.5	6.5	6.6	6.7	6.6	6.6	6
	6.6	6.3	6.1	6.0	5.8	5.9	6.0	6.2	6.3	6.3	6.2	6.4	6.5	6.5	5.6	6
17	6.6	6.4	6.2	6.1	6.0	6.0	5.9	6.1	6.2	6.1	6.0	6.1	6.2	6.3	6.5	6
18	6.4	64	6.3	6.2	6.2	6.2	6.1	6. r	6.2	5.9	5.8	5.9	6.0	6.1	6.3	6
19	6.1	6.2	6.3	6.3	6.3	6.3	6.2	6.3	6.2	5.8	5.7	5.8	5.8	5.9	6.2	6
20	5.9	6.0	6.2	6.4	6.4	6.5	6.4	6.5	6.4	5.9	5.7	5.7	5.7	5.7	5.o	6
21	5.7	5.7	5.9	6.2	6.4	6.6	6.6	6.7	6.6	6,1	5.9	5.8	5.7	5.6	5.9	6
22	5.5	5.4	5.6	6.0	6.2	6.5	6.6	6.8	6.8	6.3	6.1	5.9	5.8	5.6	5.8	6
23	5.4	5.3	5.4	5.7	6.0	63	6.5	6,8	6.9	6.4	6.2	6.0	5.9	5.7	5.8	5

Hourly heights of tide, Cape Flora, Franz Josef Archipelago, Arctic Ocean—Continued
July, 1904

Day of month	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Hours	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet
0	6.0	5.8	5.8	5.9	6.0	6.2	6.5	6.7	6.9	7.1	(6.8)	6.4	5.9	5-7	5.6	56
I	6.0	5.8	5.7	5.8	5.8	6.0	6.2	6.4	6.7	6.9	(6.8)	6.6	6.2	5.9	5.8	5.6
2	6.1	6.0	5.7	5.6	5.6	5.7	5.9	6.1	6.4	6.7	(6.6)	6.7	6.4	6.2	6.0	5.8
3	6.4	6.1	5.9	5.7	5.6	5.6	5.7	5.8	6.2	6.5	(6.5)	6.5	6.4	6.3	6.2	6.1
4	6.5	6.4	6. I	6.0	5 7	5.6	5.6	56	5.9	6.2	(6.3)	6.3	6.4	6.4	6.4	6.4
5	6.6	6.5	6.3	6.3	6.0	5.8	5.7	5.6	5.7	6.0	(6.1)	6.1	6.2	6.3	6.5	6.5
5 6	6.7	6.6	6.6	6.5	6.4	6.2	6.0	5.7	5.7	5.9	(5.9)	6.0	5.9	6.2	6.5	6.6
7	6.6	6.7	6.7	6.8	6.8	6 5	6.3	6.0	5.9	6.0	(5.8)	5.8	5.8	6.1	6.5	6.7
7 8	6.5	6.6	68	6.9	7.0	69	6.7	6.4	6.3	6.3	(5.9)	5.7	5.8	6.0	6.3	6.6
9	6.5	<b>6</b> .6	6.7	6.9	7.1	7.1	7.0	6.8	6.7	<b>*</b> (6.6)	6.2	5.9	5-7	6.0	6.2	6.5
1Ó	6.4	6.5	6.7	6.9	7.2	7.2	7.2	7.1	7.0	(6.9)	6.5	6.1	5.8	5.9	6.2	6.4
11	6.4	6.4	6.5	6.7	7.0	7.2	7.2	7.3	7.3	(7.2)	6.8	6.4	6.0	6.0	6.2	6.4
Noon	6.5	6.3	6.4	6.6	6.8	6.9	7.1	7.3	7.4	(7.3)	7.1	6.6	6.3	6.2	6.2	6.3
13	6.6	6.3	6.3	6.5	6.6	6.7	6.8	7. I	7.3	(7.4)	7.2	6.8	6.5	6.4	6.3	6.3
14	6.7	6.4	6.3	6.4	6.4	6.5	6.5	6.8	7.0	(7.2)	7.2	6.9	6.7	6.6	6.5	6.4
15	6.7	6.5	6.4	6.3	63	6.3	6.3	6.5	6.7	(6.9)	6.9	6.8	6.8	6.7	6.7	6.5
16	6.8	6.6	6.5	6.4	6.4	6.2	6.1	6.2	6.4	(6.6)	6.6	6.0	` 6.6	6.7	6.8	6.6
17	6.8	6.7	6.6	6.5	6.5	63	6.1	6.1	6.3	(6.4)	6.3	6.3	6.4	6.6	6.8	68
18	6.8	6.7	6.7	6.7	6.7	6.5	6.3	6.1	6.2	(6.2)	6.0	6.0	6.1	6.4	6.7	6.8
19	6.6	6.6	6.8	6.8	6.8	6.6	6.4	6.2	6,2	(6.0)	5.8	5.7	5.9	6.1	6.5	6.8
20	6.4	6.4	6.7	6.8	69	6.8	6.7	6.5	6.3	(6.o)	5.7	5.6	5.6	5.9	6.2	6.6
21	6.2	6.2	6.5	6.7	6.9	6.9	6.8	6.7	6.5	(6.1)	5.8	5.4	5.5	5.8	6.0	6.4
22	6. I	6.0	6.3	6.5	6.7	6.9	6.9	6.9	6.8	(6.3)	6.0	5.6	5.4	5.6	5.9	6.2
23	5.9	5.9	6.1	6.3	6.5	6.8	6.9	7.0	7.0	(6.6)	6.2	5.7	5.5	5.5	5.8	6.0

<sup>\*</sup> The values in parentheses are interpolated,

Hourly heights of tide, Cape Flora, Franz Josef Archipelago, Arctic Ocean—Continued

July and August, 1904

Day of month	24	25	26	27	28	29	30	31	I	2	3	4	5	6	7	8
Hours	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet
O	5.9	6.0	6.1	6.2	6.5	6.6	6.7	6.5	6.4	6.4	6.6	6.6	6.1	5.9	5.6	5.1
I	5.9	5.8	5.9	6.0	6.2	6.3	6.4	6.4	6.4	6.6	68	6.8	6.3	6.1	5.8	5-
2	6.0	58	5.8	5.8	6.0	6,1	6.1	6.2	6.2	6.5	6.8	6.9	6.6	6.3	6.0	5.
3	6.1	5.9	5.8	5.7	5.8	5.9	5.9	5.9	6.0	6.3	6.7	6.8	6.7	6.4	6.1	6.
4	6.3	6.0	5.9	5.7	5.7	5.8	5.7	5.7	5.8	6.2	6.5	6.7	6.6	6.5	6.2	6.
5	6.6	6.2	6.1	5.9	5.7	5.7	5.6	5.6	5.7	6.1	6.4	6.6	6.5	6.5	6.3	6.
5 6	6.8	6.5	6.4	6.2	6.0	5.8	5.7	5.5	5.6	5.9	6.3	6.5	6.5	6.5	6.4	6.
7	7.0	6.8	6.7	6.5	6.3	6.1	5.9	5.6	5.6	5.9	6.2	6.4	6.4	6.5	6.4	6.
7 8	7.1	6.9	7.0	6.8	6.6	6.4	6.2	5.8	5.8	6.0	6.3	6.3	6.4	6.3	6.4	6.
9	7.0	7.0	7.1	7.0	6.9	6.7	6.5	6.1	6.0	6.2	6.4	6.3	6.3	6.2	6.3	6.
IO	6.9	6.9	7.1	7.1	7.1	7.0	6.8	6.4	6.3	6.5	6.7	6.4	6.4	6.2	6 2	6.
II	6.8	6.8	7.0	7.1	7.1	7.2	6.9	6.7	6.6	6.7	6.9	6.6	6.6	6.1	6.0	6.
Noon	6.6	6.6	6.8	6.9	7.0	7.1	7.0	6.8	6.8	6.9	7.1	6.8	6.7	6.2	6.0	6.
13	6.5	6.4	6.6	6.7	6.8	6.9	6.8	6.7	6.8	7.0	7.2	6.9	6.8	6.4	6.2	6.
14	6.5	6.3	6.4	6.5	6.5	6.6	6.6	6.5	6.7	6.9	7.2	7.0	6.9	6.5	6.3	6.
15 16	6.6	6.3	6.3	6.3	6.3	6.3	6.3	6.2	6.5	6.8	7.1	7.0	6.9	6.6	6.4	6.
16	6.7	6.4	6.2	6 2	6.1	6.1	60	6.0	6.2	6.5	6.9	6.8	6.8	6.6	6.5	6.
17	6.8	5.6	6.3	6.2	6.0	6.0	5.9	5.8	6.0	6.2	6.6	6.6	6.7	6.5	6.5	6.
18	6.9	6.7	6.4	6.3	61	6.0	5.8	5.6	5.8	6.1	6.4	6.4	6.4	6.4	6.4	6.
19	6.9	6.8	6.6	6.5	6.3	6.1	5.8	5.6	5.7	6.0	6.2	6.2	6.2	6.2	6.3	6.
20	6.8	6.8	6.7	6.7	6.5	6.3	6.0	5.8	5.8,	5.9	6.1	6.0	6.0	60	6. I	6.
2 I	6.7	6.8	6.8	6.8	6.6	6.5	6.2	5.9	5.9	6.0	6.1	5.8	5.8	5.8	6.0	6.
22	6.4	6.6	6.7	6.8	6.7	6.6	6.4	6.1	ő, I	6.2	6.2	5.8	5.8	5.7	5.8	6.
23	6.2	5.4	6.4	6.7	6.8	6.7	6.5	6.3	6.3	6.4	6.4	6.0	5.8	5.6	5 7	5.

Hourly heights of tide, Cape Flora, Franz Josef Archipelago, Arctic Ocean—Continued

August, 1904

Day of month	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Hours	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet
0	5.7	5.7	5.5	5.9	6.2	60	6.0	60	6.0	5.8	5.7	5.4	5.3	5.4	5.3	5.3
I	5.7	5.5	5.⊉	5.6	58	- 5.8	6,0	6.1	6. r	6.1	6.0	5.7	5.4	5.4	5.2	5.2
2	5 7	5.4	5.0	5 3	5.5	5.4	5.7	6.0	6.2	6.2	6. I	5.9	5.5	5.5	5.2	5.0
3	5.9	5-4	5.0	5.0	5.2	5 2	5.3	5.6	6.1	6.3	6.3	6.0	5.7	5.6	5.3	5 0
4	6.1	5.6	5.₽	4.9	5.1	4.9	5.0	5.4	5.8	6.2	6.3	6.1	5.9	5.8	5.5	5.2
5 6	63	5.9	5.4	5.2	5.1	4.8	4.9	5.2	5.6	6.0	6.3	6.2	6.1	60	5.7	5.4
6	6.5	6.2	5.6	5.5	5.3	4.9	4.8	5.1	5.5	5.8	6. 1	6.2	6.2	6.2	6.0	5 7
7 8	6.6	6.4	6.0	5.8	5.6	5.0	5.0	5.0	5.4	5.7	5.9	6.1	6.2	6.3	6.1	6.0
8	6.7	6.5	6.3	6.2	5.9	5 5	5.2	5.1	5.4	5.6	5.8	6.0	6.1	6.3	6.2	6.1
9	6.7	6.6	6.5	6.4	6.2	5.9	5.6	5.4	5.6	5.7	5.8	5.9	6.0	6.2	6.2	6.3
10	6.6	6.5	6.6	6.6	6.5	6.2	5.9	5.8	5.8	5.8	5.8	5.8	5.9	6.0	6.0	6.2
II	6.4	6.4	6.4	6.5	6.5	6.3	5.2	6.1	6.1	6.0	5.9	5.9	5.8	5.9	5.9	6.0
Noon	6.3	6.2	6.1	6.2	64	6.3	6.4	6.3	6.3	6.2	6.0	6.0	5.8	5.8	5.7	5.8
13	6.2	6.0	5.9	5.9	6.1	6.1	6.3	6.4	6.5	64	6.2	6.1	5.8	5.7	5.6	5.6
14	6.1	5.8	5.7	5.6	5.7	5.7	6.0	6.3	6.5	6.5	6.3	6.2	5.9	5.7	5.4	5.5
15 16	6.2	5.7	5.5	5.4	5.3	5.3	56	6.0	6.3	6.5	6.4	6.3	6.0	5.7	5.4	5.4
16	6.3	5.8	5.5	5.2	5.2	5.0	5.2	5.6	6.0	6.3	6.3	6.3	6.1	5.8	5.5	5.4
17	6.4	5.9	5.7	5.3	5.0	4.8	5.0	5.3	5.7	6. r	6.2	6.3	6.2	6.0	5.7	5.5
18	6.5	6.1	5.8	5.5	5.0	4.6	4.8	5.0	5.4	5.8	6.0	6.1	6.2	6.0	5.8	5.7
19	6.5	6.2	6.1	5.7	5.2	4.8	4.7	4.9	5 2	5.6	5.7	5.9	6.1	6.1	5.9	5.8
20	6 5	6.2	6.3	6.0	5.5	5.0	4.9	4.9	5.1	5.4	5.5	5.7	5.9	6.0	6.0	6.0
21	6.4	6.2	6.4	6.2	5.8	5.3	5.2	5.1	5.1	5.2	5.4	5.5	5.7	5.9	5.9	6.1
22	6.2	6.1	6.4	6.3	6.0	5.6	5.5	5.4	5.3	5.3	5-3	5.4	5.6	5.6	5.7	6.0
23	5.9	5.8	6.2	6.3	6.0	5.9	5.8	5.7	5.6	5.5	5.3	5-3	5.5	5.4	5.5	5.8

Hourly heights of tide, Cape Flora, Franz Josef Archipelago, Arctic Ocean—Concluded
August and September, 1904

Day of month .	`25	26	27	28	29	30	31	ı	2
Hours	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet
0	5.5	5.9	6.2	6.3	6.3	6.2	6.1	6.2	(6.0)
1	5.3	5.7	5.9	6.0	6.1	6.1	6.1	*(6.2)	(6.2)
2	5.2	5.5	5.7	5.8	5.9	5.9	5.9	(6.1)	(6.2)
3	5.1	5.4	5.5	5.6	5.6	5.6	5.8	(5.9)	(6.1)
4	5.2	5.3	5.4	5.5	5.4	5.5	5.6	(5.7)	(5.9)
5	5.4	5.4	5.4	5.4	5.3	5.4	5.5	(5.5)	(5.7)
6	5.6	5.8	5.7	5.4	5.4	5.3	5.4	(5.4)	(5.5)
7	5.9	6. г	5.9	5.7	5.6	5.5	5.4	(5.4)	(5.4)
8	6.2	6.3	6.2	6.0	5.8	5.6	5.6	(5.5)	(5.4)
9	6.3	6.5	6.5	6.2	6.0	5.8	5.8	(5.7)	(5.5)
10	6.4	6.6	6.7	6.5	6.2	6.1	6.0	(5.9)	(5.7)
11	6.3	6.6	6.8	6.6	6.4	6.3	6.2	(6.0)	(5.9)
Noon	6.1	6.4	6.6	6.6	6.5	6.4	6.4	(6.2)	(6.1)
13	5.9	6.2	6.3	6.4	6.3	6.3	6.4	(6.4)	(6.2)
14	5.6	5.9	6.0	6.0	6.0	6.1	6.3	(6.4)	(6.4)
15	5.5	5.7	5.8	5.7	5.7	58	6.1	(6.2)	(6.4)
16	5.5	5.6	5.6	5.5	5.5	5.5	5.8	(6.0)	(6.1)
17	5.6	5.6	5.5	5.4	5.3	5.3	5.6	(5 7)	(5.8)
18	5.7	5.7	5.6	5.3	5.2	5.2	5.4	(5.4)	(5.6)
19	5.9	5.9	5.8	5.5	5.3	5.2	5.4	(5.3)	(5.4)
20	6.1	6.1	6.0	5.7	5.5	<b>5</b> ⋅3	5.5	(5.3)	(5.3)
21	6.3	6.2	6.2	5.9	5.7	5.6	5.7	(5.5)	(5 4)
22	6.3	6.4	6.3	6.0	5.9	5.8	5.9	(5.7)	(5.5)
23	6.1	6.4	6.4	6.2	6.0	6.0	6.0	(5.9)	(5.7)

<sup>\*</sup> The values in parentheses are interpolated.

Hourly heights of tide, Teplitz Bay, Franz Josef Archipelago, Arctic Ocean

April, 1904

Day of month	. I	2	3	4	5	6	7	8	9	10	II	12	13	14	15	16
Hours	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Fee
O	*(3.0)	3.2	3.6	3.9	4.2	4.5	4.5	4.4	4.2	42	4.2	4.0	4.0	3.9	3.7	3.
1	(2.9)	3.0	3.3	3.6	3.9	4.2	4.2	4.2	4.2	4.3	4.3	4.2	4.2	4.0	3.8	3.
2	(3.0)	3.0	3.1	3.4	3.7	3.8	3.9	4.0	4.1	4.3	4.4	4.3	4.4	4.3	4.0	3.
3	(3.4)	3.3	3.3	3.3	3.5	3.6	3.7	3.8	4.0	4.2	4.5	4.5	4.6	4.5	4.4	4.
4	(3.8)	3.7	3.5	3.5	3.6	3.5	3.6	3.7	3.9	4.1	4.5	4.6	4.7	4.8	4.7	4.
5 6	(4.2)	4.1	4.0	3.8	3.8	3.6	3.6	3.6	3.7	3.9	4.4	4.6	4.8	5.0	4.9	5-
6	(4.5)	4.5	4.4	4.2	4.2	3.8	3.6	3.5	3.6	3.8	4.2	4.4	4.8	5.0	5. I	5.
<b>7</b> 8	(4.7)	4.7	4.7	4.5	4.6	4.0	3.8	3.6	3.6	3.8	4.1	4.3	4.6	4.9	5.0	5.
8	(4.7)	4.7	4.9	4.7	4.9	4.3	4.0	3.8	3.7	3.7	4.0	4.1	4.5	4.7	4.9	5.
9	(4.4)	4.6	4.9	4.8	5.0	4.5	4.1	3.9	3.8	3.8	3.9	3.9	4.2	4.4	4.6	4.
10	(4.1)	4 2	4.5	4.7	4.9	4.6	4.3	4. I	3.9	3.8	3.9	3.8	4.1	4.1	4.2	4.
II	(3.8)	3.7	4.1	4.4	4.7	4.5	4.4	4.2	4.0	4.0	4.0	3.8	4.0	4.0	4.0	4.
Noon	(3.5)	3.4	3.7	4.1	4.3	4.4	4.4	4.2	4.1	4.1	4.1	3.9	4.0	3.9	3.9	3
13	(3.2)	3.2	3.5	3.7	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4. I	4.1	4.0	3.9	3
14	(3.2)	3.2	3.3	3.4	3.8	3.9	4.0	4.1	4.2	4.4	4.4	4.3	4.3	4.2	4.1	3
15	(3.5)	3.4	3.4	3.3	3.6	3.7	3.8	4.0	4.1	4.4	4.5	4.5	4.6	4.5	4.4	4
16	(4.0)	3.7	3.7	3.5	3.7	3.6	3.7	3.9	4.0	4.4	4.6	4.7	4.8	4.7	4.7	4
17 18	4.5	4.2	4.0	3.7	3.9	3.7	3.6	3.8	3.9	4.3	4.6	4.7	4.9	4.9	5.0	4
18	4.7	4.5	4.4	4.1	4.2	3.8	3.7	3.7	3.8	4.2	4.5	4.6	4.9	5.0	5.2	5
19	4.8	4.8	4.8	4.5	4.5	4.1	38	3.8	3.8	4.1	4.3	4.4	4.8	4.9	5.2	5
20	4.8	4.9	5.0	4.8	4.8	4.3	40	3.9	3.8	4.0	4.1	4.2	4.5	4.7	5.1	4
21	4.5	4.7	5.0	4.9	4.9	4.5	4 2	4.0	3.8	4.0	4.0	4.0	4.2	4.4	4.8	4
22	4.0	4.4	4.7	4.9	4.9	4.6	4.3	4.1	3.9	4.0	3.9	3.9	4.I	4.0	4.4	4
23	3.5	3.9	4.3	4.6	4.8	4.6	4.4	4.2	4.0	4. I	3.9	3.9	3.9	3.8	4.I	3

<sup>\*</sup>The values in parentheses are interpolated.

# Hourly heights of tide, Teplitz Bay, Franz Josef Archipelago, Arctic Ocean—Continued April, 1904

Day of month	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Hours	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet
0	3.6	4.0	3.9	4.2	4.5	4.4	4.4	4.3	4.1	3.9	3.7	3.5	3.2	2.9
I	3.5	3.7	3.6	3.9	4.1	4.1	4.1	4.2	4.2	4.0	4.0	3.7	3.2	2.9
2	3.5	3.7	3.4	3.8	3.9	3.9	3.9	4.1	4.2	4.2	4.2	4.0	3.5	3.2
3	3.8	3.8	3.4	3.7	3.8	3.7	: 3.7	3.9	4.1	4.2	4.4	4.3	3.9	3.5
4	4.2	4. I	3.6	3.8	3.8	3.6	3.5	3.7	3.9	4.2	4.4	4.4	4.2	4.0
3 4 5 6	4.5	4.5	3.9	4.1	3.9	3.6	3-4	3.6	3.8	4.1	4.4	4.5	4.5	4.3
	4.8	4.9	4.2	4.4	4.2	3.8	3.4	3.5	3.6	3.9	4.2	4.4	4.4	4.5
7 8	5.0	5.1	4.5	4.8	4.5	4.0	3.6	3.5	3.5	3.7	4.0	4.3	4.3	4.5
8	5.0	5.2	4.6	5.0	4.7	4.3	3.8	3.6	3.5	3.5	3.8	4.0	4.1	4.4
9	4.8	5.1	4.6	5.2	4.9	4.5	4.0	3.8	3.5	3.4	36	3.7	3.7	4.0
10	4.5	4.9	4.5	5.1	5.0	4.5	4.2	4.0	3.7	3.5	3.4	3.5	3.4	3.6
II	4.2	4.5	4.2	4.8	4.8	4.6	4.3	4. I	3.9	3.7	3.5	3.4	3.2	3.3
Noon	4.0	4.2	3.9	4.5	4.6	4.4	4.3	4.2	4.0	3.9	3.7	3.5	3.1	3.1
13	3.8	4.0	3.6	4.3	4.3	4.2	4.2	4.3	4.2	4. I	4.0	3.7	3.2	3.1
14	3.8	3.9	3.5	4. I	4.1	4.0	4.1	4.2	4.3	4.3	4.2	4.0	3.5	3.4
15 16	4.0	3.9	3.5	4.0	3.9	3.8	3.9	4.1	4.3	4.4	4.5	4.3	3.9	3.7
	4.3	4.2	3.6	4.0	3.9	3.7	3.7	3.9	4.2	4.4	4.6	4.6	4.2	4.1
17	4.7	4.5	4.0	4.3	4.0	3.6	3.6	3.8	4.0	4.3	4.6	4.7	4.5	4.4
18	5.0	4.8	4.4	4.5	4.2	3.7	3.6	3.7	3.8	4.2	4.5	4.7	4.6	4.6
19	5.1	5.0	4.7	4.8	4.4	3.9	3.7	3.6	3.6	3.9	4.2	4.4	4.5	4.7
20	5.2	5.1	4.9	5.0	4.6	4.1	3.8	3.6	3.5	3.7	3.9	4.0	4.2	4.5
21	5.0	5.0	4.9	5.1	4.7	4 4	4.0	3.7	3.4	3 5	3.6	3.6	3.9	4.2
22	4.6	4.7	4.8	5.0	4.8	4.5	4.2	3.9	3.5	3.5	3.4	3.4	3.4	3.8
23	4.3	4.2	4.5	4.8	4.7	4.5	4.3	4.0	3.7	3.6	3.4	3.1	3.1	3.5

Hourly heights of tide, Teplitz Bay, Franz Josef Archipelago, Arctic Ocean-Continued

May, 1904

y of month	r	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Hours	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	ľ
0	3.1	3.6	3.9	4.2	4.4	4.4	4.4	4.2	4. I	4.0	3.8	3.6	3.6	3.6	3.4	Ì
I	3.0	3.4	3.6	3.9	4.1	4.2	4.2	4. I	4.2	4.1	4.0	3.8	3.7	3.8	3.5	
2	3.1	3.3	3.4	3.7	3.8	3.9	3.9	4.0	4.1	4.1	4.1	4.0	4.0	4.0	3.7	l
3	3.3	3.5	3.5	3.6	3.7	3.7	3.7	3.8	4.0	4.I	4.1	4.2	4.2	4.3	4.0	ı
4	3.8	3.8	3.7	3.7	3.7	3.6	3.6	3.7	3.8	4.0	4.2	4.3	4.4	4.6	4.3	l
5 6	4.2	4.3	4.1	3.9	3.8	3.6	3.5	3.6	3.7	3.9	4.1	4.3	4.5	4.8	4.6	ı
6	4.5	4.6	4.5	4.3	4.1	3.8	3.6	3.5	3.6	3.8	4.0	4.2	4.5	4.8	4.8	Į
7 8	4.7	4.9	4.7	4.6	4.3	4.0	3.7	3.6	3.6	3.7	3.8	4.0	4.3	4.7	4.8	ĺ
8	4.7	5.0	4.9	4.9	4.6	4.2	3.9	3.7	3.6	3.6	3.7	3.8	4.1	4.5	4.7	l
9	4.4	4.9	5.0	5.0	4.8	4.4	4.1	3.9	3.7	3.6	3.6	3.6	3.9	4.2	4.3	ı
10	4.1	4.5	4.8	5.0	4.8	4.6	4.2	4.0	3.8	3.7	3.6	3.6	3.8	4.0	4.0	
II	3.7	4.2	4.5	4.8	4.8	4.6	4.3	4.1	3.9	3.8	3.7	3.6	3.7	3.9	3.8	
Noon	3.5	3.9	4. I	4.5	4.6	4.5	4.3	4.2	4. I	4.0	3.8	3.7	3.7	3.8	3.7	l
13	3.3	3.7	3.9	4.2	4.3	4.3	4.2	4.3	4.2	4.1	4.0	3.9	4.0	3.9	3.7	
14	3.4	3.7	3.7	4.0	4.1	4.1	4.1	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.0	
15 16	3.7	3.8	3.7	3.9	3.9	3.9	3.9	4.1	4.2	4.3	4.3	4.4	4.5	4.4	4.4	
	4.1	4. I	3.9	4.0	3.8	3.8	3.8	4.0	4.I	4.2	4.3	4.5	4.8	4.6	4.7	
17	4-5	4.4	4.2	4.2	4.0	3.7	3.7	3.8	4.0	4.1	4.2	4.5	5.0	4.9	4.9	ĺ
18	4.8	4.7	4.5	4.4	4. I	3.8	3.6	3.7	3.9	3.9	4.1	4.4	4.9	5.0	5.1	
19	5.0	5.0	48	4.7	4 3	4.0	3.7	3.7	3.7	3.8	3.9	4.2	4.6	4.8	5.1	
20	5.0	5.1	5.0	4.9	4.5	4.2	3.8	3.8	3.6	3.6	3.7	4.0	4.3	4.5	4.9	
21	4.7	5.0	5.0	5.0	4.7	4.3	4.0	3.9	3.7	3.6	3.6	3-7	4.1	4.I	4.5	
22	4.3	4.7	4.9	5.0	4.7	4.4	4.1	4.0	3.8	3.6	3.5	3.6	3.8	3.8	4.2	
23	3.9	4.4	4.6	4.8	46	4.5	4.2	4.1	3.9	3.7	3.5	3.5	3.6	3.6	3.8	

Hourly heights of tide, Teplitz Bay, Franz Josef Archipelago, Arctic Ocean—Concluded

May, 1904

Day of month	17	18	19	26	21	22	23	24	25	26	27	28	29	30	31
Hours	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Fee
O	3.7	3.7	4.0	4.2	4.4	4.5	4.6	4.4	4.0	3.7	3.6	3.4	3.5	3.6	3.7
1	3.6	3.4	3.7	3 9	41	4.3	4.6	4.5	4.2	3.9	3.9	3.7	3.6	3.6	3.
2	3.5	3.3	3.5	3.6	3.8	4.0	4.3	4.4	4.3	4.2	4.2	4.0	3.9	3.8	3.
3	3.8	3.5	3.5	3.4	36	3.7	4.1	4.2	4.2	4.3	4.5	4.3	4.3	4.1	3.
4	4.2	3.7	3.7	3.5	3.5	3.6	3.9	4.0	4.1	4.3	4.7	4.6	4.7	4.5	4.
5 6	4.5	4.1	40	3.7	3.6	3.5	3.8	3.8	3.9	4.2	4.7	4.8	5.0	4.9	4-:
	4.8	4.5	4.3	4.0	3.8	3.6	3.7	3.7	3.7	4.0	4.6	4.8	5.1	5.1	4.
7 8	5.0	4.7	4.7	4.3	4.0	3.8	3.7	3.6	3.5	3.8	4.4	4.7	5.1	5.2	5.
8	5.0	4.8	4.9	4.6	4.3	4.1	3.9	36	3.4	3.6	4. I	4.4	4.9	5.1	5.
9	4.8	4.8	5.0	4.8	4.6	4.3	4.1	3.8	3.4	3.5	3.9	4.1	4.5	4.8	4.
IO	4.5	4.6	4.9	4.8	4.7	4.6	4.3	4.0	3.5	3.5	3.7	3.9	4.2	4.5	4.
II	4.2	4.2	4.6	47	4.7	4.7	4.5	4.2	3.8	3.7	3.7	3.7	4.0	4.1	4.
Noon	4.0	4.0	4.3	4.4	4.6	4.7	4.6	4.4	4.0	3.9	3.9	3.7	3.9	4.0	4.
13	3.8	3.8	4.0	4.2	4.4	4.6	4.6	4.5	4.2	4.2	4.2	3.8	3.9	3.9	3.
14	3.8	3.6	3.9	3.9	4.2	4 4	4.5	4.5	4.3	4.5	4.5	4.2	4.1	40	3.
15	4.0	3.7	3.8	3.8	3.9	4.1	4.3	4.4	4.4	4.7	4.8	4.6	4.5	4.2	3.
16	4.3	4.0	3.9	3.7	3.7	3 9	4. I	4.2	4.3	4.7	4.9	4.9	4.9	4.6	4.
17	4.5	4.3	4.1	3.9	3.7	3.8	3.9	4.0	4.1	4.7	5.0	5.2	5.1	5.0	4.
18	4.8	4.6	4.4	4. I	3.8	3.8	3.7	3.8	3.9	4.5	4.8	5.2	5⋅3	5.2	4.
19	5.0	4.9	4.7	4.4	4.1	3.9	3.7	3.6	3.6	4.2	4.6	5.0	5.2	5.3	5.
20	5.1	5.0	4.9	4.6	4.3	4. I	3.8	3.5	3.4	3.9	4.2	4.6	5.0	5.2	5.
21	4.9	5.0	5.0	4.8	4.5	4.3	3.9	3.5	3.2	3.6	3.9	4.3	4.6	4.9	5.
22	4.5	4.8	4.9	4.8	4.6	4.5	4.1	3.6	3.3	3.5	3.6	3.9	4.2	4.4	4.
23	4.1	4.4	4.6	4.7	4.7	4.6	4.2	3.8	3.4	3.5	3.4	3.7	3.8	4.0	4.

#### REDUCTION OF TIDES

The above hourly heights of the sea were discussed by the harmonic analysis, the process being essentially similar to that outlined by Prof. George H. Darwin, in the report of the British Association for the Advancement of Science, for the year 1883, and hence not necessary to reproduce here. The amplitudes (H) or semi-ranges of the components expressed in feet, and their epochs  $(\kappa)$  or component-tidal intervals expressed in degrees, as given in the table, have been corrected by a process for eliminating the small residual effect of one component upon another.

#### HARMONIC CONSTANTS

Cape Fiora.—Results from 104½ days, May 21, oh to September 2, 11h, 1904, mean local civil time.

Symbol	Name of component	Speed per solar hour	Ampli- tude <i>H</i>	Epoch &
		0	Feet	0
A <sub>0</sub>	Mean sea level on tide staff No. 1		6.076	
K <sub>1</sub>	Luui-solar diurnal	15.0410686	0.224	29.9
$\mathbf{K}_2$	Luni-solar semidiurnal	30.0821374	0.039	333-3
$L_2$	Smaller lunar elliptic semidiurnal	29.5284788	0.015	296.8
$\mathbf{M}_2$	Principal lunar series	28.9841042	0.435	278.8
M <sub>4</sub>	Principal lunar series	57.9682084	0,006	189.3
M <sub>6</sub>	Principal lunar series	86.9523126	0.008	161.8
$N_2$	Larger lunar elliptic semidiurnal	28.4397296	0.083	245.1
O <sub>1</sub>	Lunar diurnal	13.9430356	0.073	47.3
$P_1$	Solar diurnal	14.9589314	0.074	29 9
S <sub>2</sub>	Principal solar semidiurnal	30.0000000	0.145	333-3
$\mu_2$	Variational	27.9682084	0.010	224.4
$\nu_{2}$	Larger lunar evectional	28.5125830	0.016	249.6

Teplitz Bay.—Results from 58 days, April 1, oh to May 28, 23h, 1904, mean local civil time, to which is added the results obtained by the expedition of the Duke of Abruzzi, 1899–1900, as taken from the scientific results of his polar expedition, published in Milan, 1903.

	Ziegler E	xpedition	Duke of	f Abruzzi
Symbol	Ampli- tude <i>H</i>	Epoch $\kappa$	Ampli- tude H	Epoch
A <sub>0</sub>	Feet	0	Feet	0
K <sub>1</sub>	0,101	25.6	0.092	11.3
K <sub>2</sub>	0.056	229 2	0.049	230.0
$\mathbf{L_2}$	0.019	197.1		
$\mathbf{M}_2$	0.509	1 <b>7</b> 8 o	0.472	168.4
M <sub>4</sub>	0.005	356.7		
$M_6$	0.004	264.5		
N <sub>2</sub>	0.097	154.8		,
O <sub>1</sub>	0.042	49.2	0.052	354-4
$P_1$	0.033	25.6	0.030 🚊	() II.3
S <sub>2</sub>	0.208	229.2	o.174 *	230.0
$\mu_2$	0.012	126.9		
$\nu_2$	0.019	157.9		

The tides discussed by the Duke of Abruzzi consisted of three short series—September 19 to October 17, 1899, March 16 to April 3, 1900, and June 3 to 27, 1900. The record was very defective, especially for the first series, where only a few readings were obtained on most days. The values given above are the corrected mean results, taken from his published report without change, other than converting meters into feet and minutes into tenths of degrees. For the most part there is a very satisfactory agreement between the results of the two analyses.

#### LUNITIDAL INTERVALS

The tide follows the moon much more closely than it does the sun, so that there is a tendency for the tide to occur when the moon is in a given position in the heavens. The difference between the time of tide and the time of the moon's transit or meridian passage is called the *lunitidal interval* for the station. Both upper and lower transits of the moon are usually compared with the time of the first high water and first low water which follows the given transit; hence we may express the operation as follows:

High-water lunitidal interval = HWI = Time of HW — )'s transit — LWI = Time of LW — )'s transit — (2)

The purpose of the tabulation given below, called "First Reduction," is to compute the lunitidal intervals for high and low waters, and also to find the mean range of tide and mean half-tide level. In this work the moon's transits have been reduced to the meridians of the stations, so that all the work is expressed in local time.

First reduction of tides at Cape Flora, Franz Josef Archipelago, Arctic Ocean

			,	Time	of-	-	Luı	nitidal	lint	erval	Heigh	nt of—
Date		on's isits		igh iter		ow iter		gh ter		ow ater	High water	Low water
1904	h	m	h	m	h	m	h	m	h	m	Feet	Feet
May 21	(4	59)	[1	55]	[7	35]	9	24	(2	36)	[6.3]	[5.5]
	17	26	13	55	21	05	(8	56)	3	39	6.7	5.6
22	( 5	54)	2	43	8	22	9	17	(2	28)	6.3	5.5
	18	21	14	40	21	55	(8	46)	3	34	6.7	5.6
23	(6	47)	3	22	9	37	9	OI	(2	50)	6.3	5.6
	19	13	15	27	22	50	(8	40)	3	37	6.4	5.3
24	( 7	39)	5	23	10	35	IO	10	(2	56)	6.1	5.5
ļ	20	05	17	IO			(9	31)			6.3	
25	(8	30)	6	25	0	13	10	20	4	о8	5.9	5.1
	20	56	18	15	12	45	(9	45)	(4	15)	6.1	5.3
26	(9	22)	7	53	I	12	10	57	4	16	6.1	4.9
,	21	48	19	21	13	28	(9	59)	(4	06)	6.3	5.4
27	(10	14)	8	<b>3</b> 3	2	27	10	45	4	39	6.4	5.1
	22	41	20	10	14	32	(9	56)	(4	18)	6.4	5.6
28	(11	07)	9	35	2	57	10	54	4	16	6.6	5.0
	23	34	20	40	15	00	(9	33)	(3	53)	6.7	5.7
29			10	10	3	07	10	36	3	33	6.8	5.2
	(12	<b>o</b> o)	21	55	15	34	(9	55)	(3	34)	6.6	5.8
30	0	27	10	52	4	20	IO	25	3	53	6.8	5.2
	(12	53)	22	36	16	45	(9	43)	(3	52)	6.5	5.7
31	I	19	II	30	4	50	10	11	3	31	6.8	5.1
	(13	45)	23	10	17	48	(9	25)	(4	03)	6.4	5.6
June 1	2	11			5	32			3	21	••	5. I
}	(14	36)	12	15	18	24	IO	04	(3	48)	6.8	5.6
2	3	00	0	00	6	00	(9	24)	3	00	6.4	5.3
	(15	24)	12	42	18	57	9	42	(3	33)	6.8	5.7
3	3	49	0	30	6	36	(9	o6)	2	47	6.4	5.4
	(16	12)	13	10	19	52	9	21	(3	40)	6.7	5.7
4	4	34	I	о8	7	28	(8	<b>5</b> 6)	2	54	6.3	5.4
	(16	57)	13	48	20	44	9	14	(3	47)	6.6	5.6
5	5	18	1	22	8	00	(8	25)	2	42	6.1	5.4
	(17	40)	14	30	21	55	9	12	(4	15)	6.4	5.5
Number	rof	obser	vatio	ons			3	I		31	31	31
Half mo	onth	ly su	ms			••••	283	993	95	1004	200.0	168.o

First reduction of tides at Cape Flora, Franz Josef Archipelago, Arctic Ocean-Continued

	Me	on's		Time	e of-	_	Lu	mitida	ıl int	erval	Heig	ht of—
Date		nsits		igh iter		ow ater		igh ater		Low rater	High water	Low water
1904	h	m	h	m	h	m	h	m	h	m	Feet	Feet
June 6	6	OI	2	55	9	05	(9	15)	3	04	6.0	5.5
	(18	23)	15	12	22	18	9	II	(3	55)	6.3	5.4
7	6	44	4	00	9	41	(9	37)	2	57	5.8	5.4
	(19	o6)	16	21	23	05	9	37	(3	59)	6.0	5.2
8	7	27	5	28	10	43	(10	22)	3	16	5.8	5.4
	(19	49)	16	57			9	30			6.1	
9	8	12	6	30	0	08	(10	41)	(4	19)	6.o	5.2
	(20	34)	18	02	12	17	9	50	4	05	6.3	5.7
10	8	57	7	43	r	07	(11	09)	(4	<b>3</b> 3)	6.3	5.4
	(21	21)	19	00	13	33	10	03	4	36	6.3	5.8
11	9	46	8	30	1	45	(11	09)	(4	24)	6.5	5.3
	(22	11)	19	25	14	IO	9	39	4	24	6.5	5.9
12	10	<b>3</b> 8	9	00	2	35	(10	49)	(4	24)	6.6	5.3
	(23	05)	20	25	15	00	9	47	4	22	6.5	5.8
13	11	32	9	33	2	55	(10	28)	(3	50)	6.8	5.2
			21	21	15	48	9	49	4	16	6.7	6.0
14	( 0	00)	9	59	3	30	(9	59)	(3	30)	7.0	5.5
	12	28	21	32	16	21	9	04	3	53	6.8	6.1
15	(0	58)	10	50	4	25	(9	52)	(3	27)	7.0	5.5
	13	27	22	45	17	12	9	18	3	45	6.7	5.9
16	1)	56)	11	58	5	20	(10	02)	(3	24)	6.9	5.2
	14	25	23	33	17	54	9	о8	3	29	6.6	5.7
17	( 2	53)			5	52			(2	59)		5.3
	15	21	12	18	18	40	(9	25)	3	19	6.9	5.6
18	(3	49)	0	30	6	35	9	09	(2	46)	6.6	5.4
	16	16	13	05	19	30	(9	16)	3	14	6.9	5 5
19	(4	44)	I	14	7	32	8	58	(2	48)	6.4	5.3
	17	ю	14	00	20	35	(9	16)	3	25	6.7	5.4
20	( 5	36)	2	06	8	20	8	56	(2	44)	6.3	5.5
	18	02	14	30	21	25	(8	54)	3	23	6.7	5.5
21	(6	28)	3	25	9	18	9	23	(2	50)	6.4	5.7
	18	53	15	39	22	46	(9	11)	3	53	6.7	5.4
Number	of o	bserv	atio	ns			3	1		31	31	31
Half mo							_	887		1033	201.1	171.0
								.				<u> </u>

First reduction of tides at Cape Flora, Franz Josef Archipelago, Arctic Ocean-Continued

		3.0	,		lime	of-	_ 1/	Lun	itidal	int	erval	Heigl	at of—
Date			on's isits		glı ter		ow ter	Hi wa	gh ter		Low rater	High water	Low wate:
1904		h	m	h	m	h	m	h	m	h	m	Feet	Feet
June 2	22	(7	18)	4	45	10	15	9	52	(2	57)	6.4	5.8
	,	19	44	16	22	23	43	(9	04)	3	59	6.6	5.4
2	3	( 8	09)	6	13	11	39	10	29	(3	<b>3</b> 0)	6.3	5.7
		20	35	17	42	• •	• •	(9	33)	• • •	• •	6.4	
2	24	( 9	01)	7	04	0	29	10	29	3	54	6.3	5.1
	`	21	27	18	22	12	52	(9	21)	(3	51)	6.3	5.7
2	25	(9	53)	8	17	I	23	10	50	3	56	6.4	5.1
		22	19	19	37	13	58	(9	44)	(4	05)	6.4	5.7
2	26	(10	45)	8	56	2	17	10	37	3	58	6.5	5.2
		23	11	20	25	14	59	(9	40)	(4	14)	6.4 6.8	5.7
2	₹7	11)	37)	9	55 18	3	10	10	44	3	59 16)	6.6	5.2
	8	٠.	• •	21		15	53	(9 10	41)	(4	1		5.9
2	20	(70	03 28)	10	33	3 16	50		30	3	47	6.9 6.6	- 5-3
,	29 -	0	- 1	22	07	4	45	(9 10	39) 12	(4	17)	7. I	5 9
-	-9	١.	53 17)	11 22	05 51	i7	15		34)	(3	52)	6.8	5·5 6. I
	30 .	(13	41	11	28	5	09 16	9	34) 47	3	35	7.2	5 7
3	,	(14	05)	23	25	17	50	(9	20)	(3	45)	6.9	6.2
July	I	2	- 29	-3	-3	5	45			3	16		5.8
,,	•	(14	52)	12	00	19	02	9	31	(4	10)	7. I	5.8
	2	3	14	0	20	6	34	(9	28)	3	20	6.5	5.5
	-	(15	36)	12	55	19	22	9	41	(3	46)	6.9	5.7
	3 .	3	57	ı	15	7	10	(9	39)	3	13	6.4	5.6
	J ;	(16	18)	13	17	20	06	9	20	(3	48)	69	5.7
	4	4	40	-3 I	32	7	49	(9	14)	3	09	6.4	5.7
	•	(17	oI)	13	55	20	46	9	15	(3	45)	6.8	5.7
	5	5	22	2	33	8	07	(9)	32)	2	45	6.3	5.8
	-	(17	44)	14	34	21	39	9	12	(3	55)	6.6	5.6
	6	6	05	3	35	.8	58	(9	51)	2	53	6.2	5.9
		(18	27)	15	15	22	16	9	10	(3	49)	66	5.8
	7	6	50	4	25	9	57	(9	58)	3	07	6.5	6.3
		(19	13)	16	00	23	18	9	10	(4	05)	6.9	5.9
Num	be	r of o	bser	vatio	ons			3	ı		31	31	31
Half								286	967	96	1098	205.0	176.0

First reduction of tides at Cape Flora, Franz Josef Archipelago, Arctic Ocean-Continued

			1	ľime	of-	-	Ļu	nitidal	inter	val	Heigh	t of—
Date	trai		Hi wa	gh ter	Lo wa		Hig wat		Lo wa	ow ter	High water	Low water
1904	h	111	h	111	h	m	h	m	h	m	Feet	Feet
July 8	7	36	5	52	ΙΙ	15	(1o	39 )	3	39	6.7	6.4
	(20	00)	16	<b>3</b> 5			8	59			6.8	• •
9	8	25	6	59	0	15	(10	59 )	(4	15 )	6.7	<b>5</b> .8
	(20	51)	17	41	12	33	9	16	4	о8	6.7	6.3
. 10	9	17	8	II	1	02	(11	21 )	(4	11 )	<b>6.</b> 8	5.7
	(21	45)	18	44	13	35	9	27	4	18	<b>6</b> .8	6.3
11	IO	13	8	55	2	14	11)	10 )	(4	29 )	6.9	5.6
	(22	42)	19	56	15	00	9	43	4	47	<b>6</b> .8	6.3
12	11	12	9	36	2	50	(10	54 )	(4	o8 )	7.2	5.6
	(23	41)	20	46	15	08	9	34	3	56	6.9	6.3
13			10	14	3	36	(10	33 )	(3	55 )	7.2	5.6
	12	II	21	54	16	22	9	43	4	II	6.9	6.2
14	( 0	41)	10	37	4	23	(9	56)	(3	42 )	7.3	5.6
	13	10	22	18	16	38	9	ο8	3	28	<b>6</b> .9	6.1
15	( 1	39)	11	36	4	52	(-9	57 )	(3	13 )	7.3	5.6
	14	о8	23	<b>2</b> I	17	46	9	13	3	38	7.1	6. г
16	( 2	36)	12	об	5	37	(9	30)	(3	or )	7-4	5.6
	15	03	23	55	18	30	(8	52 )	3	27	7.1	6.2
17	( 3	31)			6	18			(3	47 )		5.9
	15	58	[12	48]	[19	37]	([9	17])	[3	39]	[7.4]	<b>[6</b> .0]
18	(4	24)	[ 0	27]	[ 7	15]	[8]	29]	([2	51])	[6.8]	[5.8]
	16	50	13	28	20	18	( 9	04)	3	28	7.2	5.7
19	( 5	16)	1	50	8	04	9	00	( 2	48 )	6.7	5· <b>7</b>
	17	41	14	25	21	02	(9	09	3	21	69	5.4
20	( 6	07)	3	12	8	40	9	31	(3	33 )	6.4	5.7
	18	33	15	04	21	50	(8	57 )	3	17	6.8	5.4
21	(6	58)	3	50	10	02	9	17	(3	04 )	6.4	5.9
	19	24	15	42	23	12	(8	44 )	3	48	6.7	5.5
22	(7	49)	5	36	11	00	10	12	(3	11 )	6.6	6,2
	20	15	16	30			( 8	41 )			6.8	
23	(8	41)	7	04	0	28	10	49	4	13	6.7	5.6
v	21	07	18	12	12	23	(9	31 )	( 3	42 )	6.8	6.3
Numbe	r of	obset	rvati	0119.			3	I	30		31	36
Half m							283	995	97	848	213.7	176.4
Hall III	- iii	. 7 34					3	770	"	1	3.7	

First reduction of tides at Cape Flora, Franz Josef Archipelago, Arctic Ocean-Continued

			,	Time	of—	-	Lun	itidal	inter	rval	Heigh	it of—
Date		on's isits		gh ter		ow ter	Hi wa	gh ter		ow iter	High water	Low water
1904	h	m	h	m	h	m	h	m	h	m	Feet	Feet
July 24	(9	32)	7	50	0	59	IO	43	3	52	7.1	5.9
	21	58	18	45	13	46	(9	13)	(4	14)	6.9	6.4
25	(10	23)	8	59	I	28	11	10	3	30	7.0	5.8
	22	48	19	58	14	51	(9	35)	(4	28)	6.8	6.3
26	(11	12)	9	32	2	45	IO	44	3	57	7.2	5.8
	23	37	21	12	15	50	(IO	00)	(4	38)	6.8	6.2
27		• •	IO	20	3	37	IO	43	4	00	7.1	5.7
	(12	00)	21	48	16	30	(9	48)	(4	30)	6.8	6.2
28	0	25	IO	58	4	40	10	33	4	15	7.1	5.7
	(12	48)	22	38	17	05	(9	50)	(4	17)	6.8	<b>6</b> .o
29	1	IO	·II	13	5	05	10	03	3	55	7.2	5.7
	(13	32)	23	18	17	34	(9	46)	(4	02)	6.8	<b>6.</b> o
30	I	54	11	41	5	29	9	47	3	35	7.0	5.6
	(14	16)	23	52	18	13	(9	36)	(3	57)	6.5	5.8
31	2	37			5	54	• •		3	17	• •	5.5
	(14	58)	12	27	18	40	9	<b>5</b> 0	(3	42)	6.8	5.6
Aug. 1	3	19	0	30	6	34	(9	32)	3	15	6.4	5.6
	(15	40)	12	54	19	10	9	35	(3	30)	6.8	5-7
2	4	02	I	15	6	48	(9	35)	2	46	6.6	5.9
	(16	23)	13	17	19	47	9	15	(3	24)	7.0	5.9
3	4	45	1	40	7	05	(9	17)	2	20	6.8	6.2
	(17	07)	13	41	20	35	8	56	(3	28)	7.2	6,1
4	5	30	2	27	8	IO	(9	20)	2	40	6.9	6.3
	(17	53)	14	20	21	24	8	50	(3	31)	7.0	5.8
5	6	16	3	20	8	35	(9	27)	2	19	6.7	6.3
	(18	41)	14	56	22	14	8	40	(3	33)	6.9	5.8
6	7	06	5	16	10	44	(10	35)	3	38	6.5	6.1
	(19	32)	15	42	23	15	8	36	(3	43)	<b>6.</b> 6	5.6
7	7	58	7	00	11	32	(11	28)	3	34	6.4	6.0
	(20	26)	16	30	23	30	8	32	(3	04)	6.5	5.7
8	8	54	7	44	٠.	• •	(11	18)			6.7	
	(21	23)	17	29	13	07	8	35	4	13	6.7	6.3
Numbe	er of o	obser	vatio	ons.			3	ī		31	31	31
Half m	onth	ly șu	ms.			• • • •	286	1003	98	907	211.6	183.5

First reduction of tides at Cape Flora, Franz Josef Archipelago, Arctic Ocean-Continued

	3/7-		High Low				Lur	itidal	inte	rva1	Heigh	ıt of—
Date		on's isits		gh ter		ow ter	Hi wa	gh ter		ow ater	High water	Low
1904	h	m	h	m	h	m	h	m	h	m	Feet	Feet
Aug. 9	9	53	8	00	0	55	(10	37)	(3	32)	6.7	5.7
	(22	22)	19	38	14	00	9	45	4	07	6.6	6.1
10	10	52	8	55	2	12	(10	33)	(3	50)	6.6	5-4
	(23	22)	20	50	15	05	9	58	4	13	6.3	5.7
11	11	51	9	45	2	47	(10	23)	(3	25)	6.6	5.0
			21	41	15	43	9	50	3	52	6.4	5.5
12	( 0	21)	10	12	4	00	(9	51)	(3	39)	6.6	4.9
	12	49	22	50	16	18	10	01	3	29	6.3	5 2
13	( I	18)	II	02	4	29	(9	44)	(3	11)	6.5	5.1
	13	46	23	36	17	45	9	50	3	59	6. r	4.9
14	( 2	13)	11	20	5	20	(9	07)	(3	07)	6.3	4.8
	14	41			17	58			3	17	• •	4.6
15	( 3	o8)	0	17	5	57	9	36	(2	49)	6.o	4.8
	15	35	12	16	18	50	(9	o8)	3	15	6.4	4.7
16	(4	oı)	1	05	7	IO	9	30	(3	09)	6.1	5.0
	16	28	12	52	19	30	(8	51)	3	02	6.4	4.9
17	(4	54)	1	58	7	22	9	30	(2	28)	6.2	5.3
	17	20	13	30	20	22	(8	36)	3	02	6.5	5.1
18	( 5	46)	2	55	8	09	9	35	(2	23)	6.3	5.6
	18	Ι2	14	30	21	00	(8	44)	2	48	6.6	5.2
19	(6	38)	4	00	9	38	9	48	(3	00)	6.3	5.7
_	19	04	15	18	22	40	(8	40)	3	36	6.4	5.3
20	( 7	29)	5	14	IO	13	10	10	(2	44)	6,2	5.8
	19	55	16	20	23	32	(8	51)	3	37	6.3	5.3
21	( 8	20)	6	29			10	34			6.2	
as le	20	45	17	47	12	35	(9	27)	(4	15)	6.2	5.8
22	( 9	09)	8	00	o	46	11	15	4	01	6.3	5.4
	21	33	19	02	14	IO	(9	53)	(5	01)	6.1	5.7
23	(9	57)	8	20	I	IO	10	47	3	37	6.2	5.2
-3	22	21	20	05	14	47	(10	o8)	(4	50)	6.o	5.4
24	(10	45)	9	28	2	16	`ıı	07	3	55	6.3	5.0
	23	08	21	02	15	30	(10	17)	(4	45)	6.1	5.4
Numbe	er of o	bser	vatio	ns .			3	, I		31	31	31
	onth				-		287	1026	96	838	196.1	163.

First reduction of tides at Cape Flora, Franz Josef Archipelago, Arctic Ocean--Concluded

	3.5		,	Time	of-	-	Lu	nitidal	inter	val	Heigh	t of—
Date		on's isits	High Low water water			Hi wa	gh ter		ow	High water	Low water	
1904	h	m		111	h	m	h	m	h	m	Feet	Feet
Aug. 25	(11)	30)	9	48	2	55	IO	40	3	47	6.4	5.1
	23	52	21	35	15	44	(10	05)	(4	14)	6.3	5.5
26			IO	22	4	12	10	30	4	20	6.6	5.3
	(12	14)	22	30	16	45	(Io	16)	(4	31)	6.4	5.6
27	О	35	10	52	4	24	Io	17	3	49	6.8	5.4
	(12	56)	23	00	17	03	(10	04)	(4	07)	6.4	5.5
28	1	18	11	30	5	15	Io	12	3	57	6.6	5.3
١,	(13.	39)			17	38			(3	59)		5-3
. 29	2	00	0	о8	5	22	(10	29)	3	22	6.3	5-3
	(14	21)	II	40	17	57	9	40	(3	36)	6.5	5.2
30	2	43	0	30	5	43	(Io	09)	3	00	6.2	5.3
	(15	04)	12	20	18	29	9	37	(3	25)	6.4	5 İ
31	3	26	0	31	5	56	( 9	27)	2	30	6.1	5.4
	(15	49)	13	00	18	37	9	34	(2	48)	6.4	5.3
Sept. 1	4	12	1]	o8]	[ 6	35]	[( 9	19)]	[ 2	23 ]	[6.2]	[5.4]
	(16	36)	[13	43]	[19	18]	[ 9	31 ]	[(2	42)]	[6.4]	[5.3]
2	4	59	[ ]	57]	[ 7	26]	[(9	21)]	[ 2	27 ]	[6.2]	[5.4]
	(17	24)	[14	30]	[20	02]	[ 9	31 ]	[(2	38)]	[6.4]	[5.3]
Number	of o	bserv	atio	ns.			·			18	I7	18
Sums					• • • • •		162	402	52	575	108.6	96.0

Recapitulation of first reduction of Cape Flora observations

Date	High water	Low water	Hi wa	gh ter		ow ,	High water	Low water
1904	No. obs.	No. obs.	h	m	h	m	Feet	Feet
May 21 to June 5.	31	31	283	993	95	1004	200.0	168 o
June 6 to 21	31	31	286	887	96	1033	201.1	171.0
June 22 to July 7.	31	31	286	967	96	1098	205.0	176 0
July 8 to 23	31	30	283	995	97	848	213.7	176.4
July 24 to Aug. 8.	31	31	286	1003	98	907	211.6	183.5
Aug 9 to 24.	31	31	287	1026	96	838	196.1	163.5
Aug. 25 to Sept. 2.	17	18	162	402	52	575	108.6	96.0
Sum of sums	203	203	1873	6273	630	6303 -	1336.1	1134.4
Means			9	44.5	3	37 3	6.58	5.:9
Means	•••		9	44.5	3	37 3	6.58	5.:9

Uncorrected mean range = 6.58 ft. -5.59 ft. = 0.99 ft.

First reduction of tides at Teplitz Bay, Franz Josef Archipelago, Arctic Ocean

		Moon's transits			<b>l</b> 'ime	of-	-	Lun	itidal	l inter	Height of—		
Date	e			High water			ow ter	High water		Low water		High water	Low water
1904	ļ.	h	m 56)	h	m	h	m	h	m	h	m	Feet	Feet
Apr.	1	0	23	[ 7	22]	[ 1	07]	6	59	(13	II)	[4.7]	[2.9]
	-	(12	<b>5</b> 0)	19	02	[13	29]	(6	12)	13	06	4.8	[3.2]
	2	ı	17	7	44	I	33	6	27	(12	43)	4.8	3.0
		(13	44)	19	46	13	52	(6	02)	12	35	4.9	3.2
	3	2	II	8	21	2	10	6	10	(12	26)	4.9	3.1
	J	(14	38)	20	28	14	20	(5	50)	12	09	5.0	3.3
	4	3	04	8	57	2	33	. 5	53	(11	55)	4.8	3.3
	7	(15	31)	21	10	14	53	(5	39)	II	49	4.9	3.3
	5	3	57	9	12	3	05	5	15	(11	34)	5.0	3.5
	J	(16	23)	21	44	15	22	(5	21)	11	25	4.9	3.6
	6	4	49	10	I2	3	<b>3</b> 8	5	23	(11	15)	4.6	3.5
		(17	14)	22	IO	16	16	(4	56)	11	27	4.6	3.6
	7	5	39	11	21	4	30	5	42	(11	16)	4.4	3.5
	1	(18	03)	23	IO	17	20	(5	07)	11	41	4.4	3.6
	8	6	27	12	15	5	35	5	48	(11	32)	4.2	
		(18	51)	23	58	18	08	(5	07)	11	41	4.2	3·5 3·7
	9	7	15			6	35			(11	44)		3.6
	9	(19	37)	13	25	19	35	6	10	12	20	4.2	3.7
	10	8	00	-J	15	7	54	(5	38)	(12	17)	4.3	3.7
		(20	22)	15	25	21	02	7	25	. 13	02	4.4	4.0
	ΙΙ	8	44	2	51	9	15	(6	<b>2</b> 9)	(12	53)	4.5	3.9
		(21	05)	16	10	22	15	7	26	13	31	4.6	3.9
	12	9	27	4	20	10	25	(7	15)	(13	20)	4.6	3.8
		(21	48)	16	50	22	39	7	23	13	12	4.7	3.9
	13	10	IO	5	00	11	22	(7	12)	(13	34)	4.8	4.0
	-3	(22	32)	17	35	23	40	7	25	13	30	4.9	3.9
	14	10	53	5	35	11	52	(7	03):	(13	20)	5.0	3.9
		(23	16)	18	05			7	12		1	5.0	
	15	11	38	6	20	0	15	(7	04)	13	22	5.1	3.7
	-0		J.	18	35	12	25	6	57	(13	09)	5.3	3.9
	16	( 0	01)		50	I	15	(6	49)	13	37	5.2	3.8
+	-0	12	24	19	04	12	56	6	49)	(12	55)	5.1	3.8 3.8
94 7				- 3									
Nun	ıbe	r of c	bser	vatio	)11S			3	r	3	I	31	31
Half	m	onth	ly su	ms				182	830	373	871	146.8	111.3

First reduction of tides at Teplitz Bay, Franz Josef Archipelago, Arctic Ocean-Continued

				Tim	e of-	_	Lu	nitida	Height of—			
Date		on's ısits		High water		ow iter		igh iter		owater	High water	Low wate
1904	h	m	h	m	h	m	h	m	h	m	Feet	Feet
Apr. 17	( 0	47)	7	30	I	22	(6	43)	12	58	5.1	3.5
	13	11	19	40	13	25	6	29	(12	38)	5.2	3.8
18	( I	36)	8	04	1	32	(6	28)	12	21	5.2	3.7
	14	02	20	IO	14	15	6	08	(12	39)	5.1	3.9
19	( 2	27)	8	25	2	28	(5	58)	12	26	4.6	3.3
	14	53	20	40	14	35	5	47	(12	o8)	4.9	3.4
20	(3	20)	9	14	3	13	(5	54)	12	20	5.2	3.7
	15	47	21	07	15	17	5	20	(11	57)	5.1	4.0
21	(4	15)	9	50	3	38	(5	35)	11	51	5.0	3.7
	16	43	21	50	15	55	5	07	11)	40)	4.8	3.9
22	( 5	ır)	10	38	4	28	(5	27)	11	45	4.6	3.6
	17	39	22	42	17	00	5	03	(11	49)	4.5	3.6
23	(6	o6)	II	46	5	20	(5	40)	11	41	4.3	3.4
	18	34	23	50	17	58	5	16	(11	52)	4.3	3.6
24	(7	<b>0</b> I )			6	о8			11	34		3.5
	19	29	12	55	19	15	(5	54)	(12	14)	4.3	3.6
25	(7	56)	I	05	7	50	5	36	12	21	4.2	3.5
	20	23	14	Io	20	53	(6	14)	(12	57)	4.3	3.4
26	(8	49)	3	00	8	53	6	37	12	30	4.2	3.4
	21	16	15	18	21	40	(6	29)	(12	51)	4.5	3.5
27	( 9	43)	4	18	IO	00	(7	02)	12	44	4.5	3.4
	22	09	16	25	22	45	(6	42)	(13	02)	4.7	3.4
28	(10	36)	4	55	II	05	6	46	12	56	4.5	3.4
	23	02	17	15	23	25	(6	39)	(12	49)	4.7	3.1
29	(11	29)	5	22	II	50	6	20	12	48	4.5	3.1
	23	56	17	58		• •	(6	29)			46	
30	••		6	35	0	10	6	39	(12	41)	4.5	2,9
	(12	53)	18	48	τ2	38	(6	25)	12	42	4.7	3.1
Numbe	rofo	bser	vatio	ns			2	7		7	27	27
	Talf monthly sums							827	317	1034	126.1	27 94.4

First reduction of tides at Teplitz Bay, Franz Josef Archipelago, Arctic Ocean—Continued

	M	Moon's		Tim	e of-	-	Lu	nitida	al inte	Height of—		
Date		nsits		High water		,ow ater		High water		ow ater	High water	Low
1904	h	m	h	m	h	m	h	1H	h	m	Feet	Feet
May 1	0	50	7	40	0	58	6	50	(12	35)		3.0
	(13	17)	19	25	13	08	(6	08	12	18	5.1	3.3
2	1	43	8	04	ı	48	6	21	(12	31)	5.0	3.3
	(14	10)	20	02	13	45	(5	52)	12	02	5.1	3.7
3	2	37	8	45	2	23	6	08	(12	13)	5.0	3.4
	(15	03)	20	55	14	45	(5	52)	12	о8	5.0	3.7
4	3	29	9	22	3	05	5	53	(12	02)	5.0	3.6
	(15	55)	21	15	15	05	(5	20)	11	36	5.0	3.9
5	4	19	10	00	3	35	5	41	(11	40)	4.8	3.6
_	(16	44)	21	48	15	52	(5	04)	11	33	4.7	3.8
6	5	07	Io	35	4	05	5	28	(11)	21)	4.6	3.6
	(17	31)	22	55	16	48	(5	24)	11	41	4.5	3.7
7	5	55	II	20	5	00	5	25	(11	29)	4.3	3.5
	(18	17)	23	35	17	40	(5	18)	11	45	4.2	3.6
8	6	39			6	15			(11	58)		3-5
	(19	01)	12	45	18	50	6	o <b>6</b>	12	11	4.3	3.7
9	7	22	0	38	7	15	(5	37)	(12	14)	4.2	3.6
	(19	44 ·	14	00	20	15	6	38	12	53	4.2	3.6
01	8	05	2	IO	8	45	(6	26)	(13	01)	4.I	3.6
	(20	27)	14	45	21	15	6	40	13	10	4.3	3.6
11	8	48	3	40	9	45	(7	13)	(13	18)	4.2	3.6
	(21	10)	15	50	22	10	7	02	13	22	4.3	3.5
12	9	32	4	35	10	25	(7	25)	(13	15)	4.3	3.6
	(21	55)	16	40	22	55	7	о8	13	23	4.5	3.5
1,3	IO	18	5	20	11	23	(7	25)	(13	28)	4.5	3.7
į	(22	41)	17	18	23	35	7	00	13	17	5.0	3.6
14	11	05	6	00		]	(7	19)			4.8	
	(23	29)	17	50	12	00	6	45	(13	19)	5.0	3.8
15			6	30	О	10	(7	01)	13	05	4.9	3.4
	11	55	18	40	12	30	6	45	(13	01)	5. r	3.7
16	( 0	20)	7	IO	0	58	(6	50)	, 13	03	5.0	3.5
	12	47	19	10	12	50	6	23	(12	30)	5.3	3.8
Number	of o	bserv	atio	ns			31		3	ı	31	31
Half mo	nth1	v sun	1S				183	- 1	376		145.0	0.111

First reduction of tides at Teplits Bay, Franz Josef Archipelago, Arctic Ocean-Continued

			1	ľime	of-	.	Lun	itidal	inter	Height of—		
Date		on's isits	High water		Low water		High water		Low water		High water	Low water
1904	h	m	h	m	h	m	h	m	h	m	Feet	Feet
May 17	( 1	14)	7	45	1	32	(6	31)	12	45	5.0	3.5
	13	41	19	42	13	30	6	01	(12	16)	5.1	3.7
18	( 2	09)	8	20	2	05	(6	11)	12	24	4.9	3.3
	14	38	20	30	14	18	5	52	(12	09)	5.0	3.6
19	(3	o6)	8	50	2	50	(5	44)	12	12	5.0	3.5
	15	34	21	15	15	05	5	41	11)	59)	5.0	3.8
20	(4	03)	9	45	3	20	(5	42)	ĬI	46	4.8	3.4
	16	30	21	52	15	38	5	22	(11	35)	4.8	3.7
21	(4	58)	IO	25	4	05	(5	27)	11	35	4.8	3.5
	17	25	22	45	16	35	5	20	(11	37)	4.7	3.7
22	( 5	52)	II	35	4	58	(5	43)	` II	33	4.7	3.5
	18	19			17	40	.,	.07	(11	48)		3.8
23	(6	45)	0	30	6	IO	6	11	11	51	4.6	3.7
-3	19	11	12	30	18	50	(5	45)	(12	05)	4.6	3.7
24	(7	37)	r	20	7	15	6	09	12	04	4·5	3.6
	20	03	13	30	20	20	(5	53)	(12	43)	4.5	3.5
25	(8	28)	2	15	8	35	6	12	12	32	4.3	3.4
-0	20	54	15	00	21	15	(6	32)	(12	47)	4.4	3.2
26	( 9	20)	3	45	9	27	6	51	12	33	4.3	3.5
	21	46	16	00	22	10	(6	40)	(12	50)	4.7	3.5
27	(10	12)	4	45	IO	35	6	59	12	49	4.7	3.7
-,	22	39	16	55	23	30	(6	43)	(13	18)	5.0	3.4
28	(11	05)	5	33	11	50	6	54	13	ī1	4.8	3.7
_5	23	32	17	45			(6	40)	-5		5.2	3.,
29	(11)	58)	6	23	0	00	6	51	(12	55)	5.1	3.5
29		,,	18	15	12	15	(6	17)	12	43	5.3	3.9
30	0	25	7	12	0	35	6	47	(12	37)	5.2	3.6
30	(12	51)	19	10	13	05	(6	19)	12	40	5.3	3.9
31	r	17	7	43	-3 I	20	6	26	(12	29)	5.1	3.5
J.	(13	43)	19	35	13	40	(6	52	12	23	5.1	3.8
Numbe	er of	nhsei	rveti	One	1		2	0		9	29	29
Number of observations  Half monthly sums								9 995	342	9 969	140.5	104.1

First reduction of tides at Teplitz Bay, Franz Josef Archipelago, Arctic Ocean-Concluded

	Moon's transits			Time	e of-	_	Ļu	nitida	l interv	al	Height of-		
Date			High water		Low water		High water		Low water		High water	Low water	
1904 June 1	h 2	m 10	h 8	m 28	h 2	m 00	h 6	m 18	h (12	m 17)	Feet 4.9	Feet 3.4	
	(14	35)	20	30	14	о8	(5	55)	11	58	4.9	3.6	
2	2	59	9	00	2	38	6	01	(12	03)	4.9	3.4	
 	(15	23)	21	00	14	40	(5	37)	11	41	5.0	3.8	
3	3	48	9	38	3	10	5	50	11)	47)	4.9	3.6	
	(16	11)	21	32	15	25	(5	21)	II	37	4.8	3.9	
Number	of of	oserv	atio	ıs			6		6		6	6	
Sums		•••					32	182	68	203	29.4	21.7	

## Recapitulation of first reduction of Teplitz Bay observations

Date	High water	Low water		igh ater	Lo wa	ow ter	High water	Low water
1904 Apr. 1 to 16	No. obs.	No. obs.	h 182	m 839	h 373	m 871	Feet 146.8	Feet
Apr. 17 to 30	27	27	151	827	317	1034	126.1	94.4
May 1 to 16	31	31	183	807	376	682	145.0	111.0
May 17 to 31	29	29	164	995	342	969	140.5	104.1
June 1 to 3	6	6	32	182	68	203	29.4	21.7
Sums	124	124	712	3650	1476	3759	587.8	442.5
Means	••	]	6	14.0	12	24.5	4.74	3.57

Uncorrected mean range = 4.74 ft. -3.57 ft. = 1.17 ft.

The mean lunitidal intervals (see (1) and (2)) as given by the First Reductions, are as follows:

						Cape Flora		repr	Itz Day	
						h	m		m	
HWI						9	44.5	6	13.6	(3)
								12	23.8	(4)

The mean lunitidal interval for high water given in (3) is sometimes called the Corrected Establishment of the Port, while the mean lunitidal interval for high water at full and change (new) of the moon is called the Establishment of the Port.

The Establishment of the Port may be derived from the mean lunitidal interval as follows: Establishment of Port = HWI + Table 24\* for phase age before spring tides (5)

and substituting these values in (5) gives

Establishment of Port for Cape Flora = 
$$HWI + 25.6 = 10$$
 10.1 (9)  
Establishment of Port for Teplitz Bay =  $HWI + 29.4 = 6$  43.0 (10)

The mean lunitidal intervals may also be obtained from the harmonic constants by the equations:

Mean high-water lunitidal interval = 
$$HWI = 0.0345 (M_2^{\circ} - v)$$
 (11)

Mean low-water lunitidal interval = LWI = 
$$0.0345(M_{2}^{\circ} - w) + 6.21h$$
 (12)

Where v and w are such that

$$\tan w = \frac{2M_4 \sin (2M_2^{\circ} - M_4^{\circ}) - 3M_6 \sin (3M_2^{\circ} - M_6^{\circ}) + \dots + \dots}{-1^2M_2 + 2^2M_4 \cos (2M_2^{\circ} - M_4^{\circ}) - 3^2M_6 \cos (3M_2^{\circ} - M_6^{\circ}) + \dots}$$

From (11) and (12) we obtain:

A comparison of these values with those of (3) and (4) indicates a fairly satisfactory agreement, especially if we take into account the great difference in the methods used to obtain the two sets of results.

The sun's effect upon the time of the tide is to disturb the mean time of its occurrence, making it alternately earlier and later, according to the moon's phase.

The priming of the tide is the periodic acceleration of its time of occurrence, due to the sun's effect. At such times the lunitidal intervals are less than their mean, so that the tides occur earlier than the average. The priming of the tides occurs during the period between new or full moon and the following quadrature, beginning and ending at a time equal to the age of the phase inequality after these phases. It attains its maximum effect soon after the first and fifth octants of the moon's phase.

The lagging of the tides is the corresponding retardation in the time of its occurrence, the greatest effect being soon after the third and seventh octants of the moon's phase.

<sup>\*</sup> Whenever any table is referred to here by number, unless otherwise stated, it is contained in Appendix 7, United States Coast and Geodetic Survey Report for 1894, for tables up to 35, and in Appendix 9, Report for 1897 of the same Survey, for tables having numbers greater than 35.

The least and greatest lunitidal intervals due to priming and lagging of the tides may be designated as Prime HWI, Prime LWI, Lag HWI, and Lag LWI. They may be derived from the mean lunitidal intervals by the following formulas:

Prime HWI = HWI - 127 
$$(S_2 \div M_2)$$
 (15)  
Lag HWI = HWI + 127  $(S_2 \div M_2)$  (16)

Substituting LWI for HWI in (15) and (16) gives the corresponding values for low water. The values of S2 :- M2 are given in (7), which, being substituted in the above equations, together with the values in (3) and (4), gives:

									Cap	e Flora	Tep	litz Bay	
Drime HITT									h	m	h	m	
Prime HWI	•	•	•	•	•	•	•	•	9	02.2	5	21.7	(17)
Lag HWI									10	26.8	7	05.5	(18)
Prime LWI									2	55.0	II	31.9	(19)
Lag LWI	•	•							4	19.6	13	15.7	(20)

The declination of the moon also makes a change in the lunitidal intervals and heights of the tide, which is usually greatest when the declination becomes a maximum, at which time the moon is not far from the tropics. Hence the tides due to the moon's declination, when at their most pronounced type, are called tropic tides. At the time of the tropic tides the two high or two low waters of the same day are generally unequal, and the range from the higher high water to the lower low water is called the great tropic range.

The lunitidal intervals for the tropic tides may be obtained from the mean intervals by the following equations:

In Table 44\* of these equations the arguments are different for each phase of tide, the corresponding intervals being as follows:

				Car	e Flora	Ter	olitz Bay	
Tropic HHWI.				h	т 19.0b	h	m	(0.7)
Tropic LHWI.				_	59.9	_	58.8a 24.9	(25) (26)
Tropic HLWI.					39.8		13.5	(27)
AT . T T TTTT				•	22.5b		33.2a	(28)

The tropic intervals for the higher high water and for the lower low water are marked by the letters a and b in order to enable one to obtain the approximate time of these tides by adding the interval to the upper or lower transit of the moon as explained below. When the tropic interval (HHWI or LLWI) is marked a add the interval to the local time of the moon's upper transit, or meridian passage, for  $\frac{\text{north}}{\text{south}}$  declination of the moon; and when it is marked badd the interval to the local time of the moon's upper transit for south north declination of the moon.

The tropic tides may be said to be formed by the combination of a semidiurnal wave with a diurnal wave. The tropic lunitidal interval of the diurnal wave may be found by the equation

$$D_1HWI = 0.0345 (K_1^0 + O_1^0) a$$
 (29)

where D<sub>1</sub> stands for diurnal.

<sup>\*</sup> See note, p. 588.

Substituting the values for  $K_1^{\circ}$  and  $O_1^{\circ}$  from the table of harmonic constants already given, we obtain:

### TIDE INEQUALITIES AND RANGES

An inequality in the interval, range, or height of tide is a systematic departure of the same from the mean value at a given station. The inequality having a period of a half synodic month is the *phase inequality*; that having an anomalistic month is the *parallax inequality*; that which has the period of a tropical month causes the two high waters or two low waters of the day to differ in height, and is called the *diurnal inequality*.

The age of an inequality is the amount of time by which it follows its astronomical cause. The ages of the principal inequalities are given by the expressions:

Age of phase inequality = 
$$0.984 (S_2^{\circ} - M_2^{\circ})$$
 hours
Age of parallax inequality =  $1.837 (M_2^{\circ} - N_2^{\circ})$  hours
(31)

Age of diurnal inequality = 0.911 
$$(K_1^{\circ} - O_1^{\circ})$$
 hours (33)

Substituting the values of the epochs or kappas given in the table of harmonic constants, we obtain:

				Cape Flora  h	Teplitz Bay  h	
Age of phase inequality				53.6	50.4	(34)
Age of parallax inequality	٠			61.9	42.6	(35)
Age of diurnal inequality				<del>-</del> 15.9	-21.5	(36)

The mean range of tide, as given by the direct summation of high and low waters, usually requires to be corrected for the longitude of the moon's ascending node, there being whole series of years during which the mean annual range is greater than an average for the lunar cycle, followed by another series of years having a smaller mean annual range than the average.

If we put Mn for the corrected mean range or rise and fall of tides, and Mn' for the uncorrected mean range, we may find the corrected range from the equation

$$Mn = Mn' \times F (Mn) \tag{37}$$

The values of F (Mn) are obtained from Table 14,\* using I and  $(K_1 + O_1) \div M_2$  as arguments. In the present case these arguments are

								Cape Flora	Teplitz Bay
I		•	•	•			٠	18.38	18.33
$(K_1 + O_1) \div M_2$								Ratio 0.68	Ratio 0.28

Entering Table 14\* with these arguments, we find

<sup>\*</sup>See note, p. 588.

The mean range of tide may also be obtained from the harmonic constants by the formula

$$\begin{aligned} \mathbf{Mn} &= 2\mathbf{M}_{2} + \frac{\mathbf{I}}{2\mathbf{M}_{2}m_{2}^{2}} \left[ \mathbf{S}_{2}^{2} \mathbf{s}_{2}^{2} + \mathbf{N}_{2}^{2} n_{2}^{2} + \dots + \mathbf{K}_{1}^{2} k_{1}^{2} + \mathbf{O}_{1}^{2} \sigma_{1}^{2} + \dots \right] \\ &+ \mathbf{M}_{2} \left( \cos v + \cos w \right) + \frac{\pi}{180} \times 2\mathbf{M}_{4} \left( v - w \right) \sin \left( 2\mathbf{M}_{2}^{\circ} - \mathbf{M}_{4}^{\circ} \right) \\ &+ 2\mathbf{M}_{6} \cos \left( 3\mathbf{M}_{2}^{\circ} - \mathbf{M}_{6}^{\circ} \right) - 2\mathbf{M}_{2} \end{aligned}$$

which by means of Table 22\*, becomes

$$Mn = 2.04 \times \text{Table } 22* + .035M_4 (v - w) \sin (2M_2^{\circ} - M_4^{\circ}) + M_2 (\cos v + \cos w) + 2M_8 \cos (3M_2^{\circ} - M_8^{\circ}) - 2M_2$$
(40)

in which v and w are the same as obtained for (11) and (12). By (40) the mean range of tide from the harmonic constants is

which agrees fairly well with the values given in (38) and (39).

The spring and neap ranges of tide may be obtained from the harmonic constants by the formulas

$$Sg = Mn - .536 \frac{S_{2}^{2}}{M_{2}} + \left[1.96 - .08 \left(\frac{K_{1} + O_{1}}{M_{2}}\right)^{2}\right] \times \left[S_{2} + \mu_{2} \cos \left(2M^{\circ}_{2} - S^{\circ}_{2} - \mu^{\circ}_{2}\right)\right]$$
(43)

$$Np = Mn - .536 \frac{S_{2}^{2}}{M_{2}} - \left[ 1.96 - .08 \left( \frac{K_{1} + O_{1}}{M_{2}} \right)^{2} \right] \times \left[ S_{2} + \mu_{2} \cos \left( 2M_{2}^{\circ} - S_{2}^{\circ} - \mu_{2}^{\circ} \right) \right]$$
(44)

in which the first and last letters of the words spring and neap are used as abbreviations.

From (43) and (44) we obtain:

The heights of the tropic tides above mean sea level may be obtained from the harmonic constants by the following formulas:

Tropic HHW = 1.02 
$$\Delta_2$$
 × Table 45 † (47)  
Tropic LHW = 1.02  $\Delta_2$  × Table 45 † (48)  
Tropic HLW = 1.02  $\Delta_2$  × Table 45 † (49)  
Tropic LLW = 1.02  $\Delta_2$  × Table 45 † (50)

where

$$\textit{d}_{2} = \text{1.010 M}_{2} + \text{0.27 (S}_{2} \div \text{M}_{2}) - \text{K}_{1} \cos \left[ (\text{K}^{\circ}_{1} - \text{O}^{\circ}_{1}) \, \boldsymbol{/\!\!\!/} \, (\text{K}^{\circ}_{2} - \text{M}^{\circ}_{2}) \right]$$

and different arguments are used for the various tides. From (47) to (50) we obtain the following values, the heights being reckoned from mean sea level:

						Cape Flora	Teplitz Bay	
						Ft.	Ft.	
Tropic HHW				•-		0.537	0.621	(51)
Tropic LHW						0.410	0.446	(52)
Tropic HLW						<b>-</b> 0.153	-0.419	(53)
Tropic LLW						-0.745	<b>-</b> 0.648	(54)

Mean sea level, as used above, is the mean of the hourly heights of the sea used for obtaining the harmonic constants, or

$$MSL = \frac{1}{n} \Sigma (h_0 + h_1 + h_2 + \dots h_{22} + h_{23})$$
 (55)

in which  $\Sigma h$  represents the sum of all the heights throughout the series for the hour designated by the subscript, and n=24 times the number of days in the series discussed. As there is usually a periodic variation in mean sea level from month to month, chiefly due to seasonal changes in the direction and velocity of winds, which roughly complete their cycle in a year, it must be borne in mind that when less than a year of record is analyzed the resulting mean sea level is not a true mean for the station.

This will be more evident from a study of the following table of mean sea levels on the 1st and 16th of each month during which observations were made:

Date	Sea level	Date	Sea level	Date	Sea level	Date	Sea level
1904 April 1 April 16 May 1	Ft. 5.92 5.85 5.82	1904 May 16 June 1 June 16	Ft. 5.83 5.90 6.03	July 1 July 16 Aug. 1	Ft. 6.20 6.40 6.30	1904 Aug. 16 Sept. 1	Ft. 6.00 5.72

In the above table the heights are all referred to the tide staff at Cape Flora, that portion which was obtained from the record at Teplitz Bay having been increased by 1.73 feet, the difference between the two staves as determined from simultaneous observations; see (77). The mean of the Teplitz Bay portion of the table, viz., April 1 to June 1, is 5.86 feet on the Cape Flora staff, or 5.86 feet — 1.73 feet = 4.13 feet on Teplitz Bay staff. The corresponding mean for Cape Flora, June 1 to September 1, is 6.08 feet. The difference in the mean sea level for each of the two series is, therefore, 6.08 feet — 5.86 feet = 0.22 foot. The extreme difference in the half-monthly mean sea levels of the table is 6.40 feet — 5.82 feet = 0.58 foot, or about 7 inches, in less than three months.

Mean half-tide level is the mean of all the high and low waters for the period of observation. Abbreviating to initial letters, we have

$$HTL = \frac{I}{2} (HW + LW)$$
 (56)

When the harmonic constants for the station are known, the approximate value of mean half-tide level may be computed by the formula

$$HTL = MSL + M_4 \cos{(2 M_2^{\circ} - M_4^{\circ})} - 0.04 \frac{(K_1 + O_1)^2}{M_2} \cos{(M_2^{\circ} - K_1^{\circ} - O_1^{\circ})}$$
 (57)

The values obtained from (55), (56), and (57) are as follows:

											Cape Flora	Teplitz Bay	
From (ss) MSI											Ft.	Ft.	( 0)
From (55) MSL	•	•	•	•	•	٠	•	•	•	٠	6.076	4.133	(58)
From (56) HTL	•	•	•	•	•	•	•	•	٠	•	6.085	4.155	(59)
From (57) HTL											6.088	4.138	(60)

By adding the values of (51), (52), (53), and (54) to those of (58) we obtain the corresponding readings upon the tide staves, thus:

									•		Cape Flora	Teplitz Bay	
M											Ft.	Ft.	
Tropic HHW	•	•	•	•	•	•	•	•			6.613	4.754	(61)
Tropic LHW											6.486	4.579	(62)
Tropic HLW	•		•								5.923	3.714	(63)
Tropic LLW											5.331	<b>3</b> .485	(64)

The difference between the two tropic high waters (HHW-LHW) is called the tropic high-water diurnal inequality in height, abbreviated to tropic HWQ or often to HWQ alone, the word tropic being understood. In a similar way the tropic low-water diurnal inequality in height (HLW-LLW) is contracted to LWQ. The great tropic range (HHW-LLW) is contracted to Gc, while the small tropic range (LHW-HLW) is represented by Sc. These values from (61) to (64) are as follows:

		(	Cape Flora		ľ	Teplitz Bay						
		Ft.	Ft.	Ft.	Ft.	Ft.	Ft.					
Tropic HV	VQ.	6.613 -	- 6.486 =	0.127	4.754 -	4.579 =	= 0.175	(65)				
Tropic LV	VQ	5.923 -	- 5.331 =	0.592	3.714 -	- 3.485 =	- 0.229	(66)				
Tropic	Gc	6.613 -	- 5.331 =	1.282	4.754 -	3.485 =	= 1.269	(67)				
Tropic	Sc	6.486 -	- 5.923 =	0.563	4.579 -	- 3.714 =	= o.865	(68)				

The difference between the mean of the higher high waters and the mean of the lower low waters for one or more months is called the great diurnal range, and is abbreviated to Gt. It may be computed as follows, when either tropic HWQ or LWQ is approximately as great as one-fourth of the mean range:

$$Gt = 0.75 Gc + 0.25 Mn$$
 (69)

The range of the diurnal wave may be found from the harmonic constants, putting 2D to represent the wave, by the formula

$$2D_1 = 2.042 (K_1 + O_1) (70)$$

From (69) and (70) we obtain:

The perigean and apogean ranges are due to the moon's varying distance, and may be obtained from the harmonic constants by the following formulas:

$$Pn = Mn - \frac{.481 \text{ N}^2}{M_2}^2 + \left[2.1 - \frac{S_2^2 s_2^2}{2M_2^2 m_2^2} - \frac{.08 (K_1 + O_1)^2}{M_2^2}\right] \times [2N + N_2 - L_2]$$
 (73)

An = Mn - 
$$\frac{.481 \text{ N}^2}{\text{M}_2}^2$$
 +  $\left[2.1 - \frac{\text{S}_2^2 \text{ s}_2^2}{2\text{M}_2^2 \text{ m}_2^2} - \frac{.08 (\text{K}_1 + \text{O}_1)^2}{\text{M}_2^2}\right] \times \left[2\text{N} - (\text{N}_2 - \text{L}_2)\right]$  (74)

in which the words perigean and apogean are abbreviated to their first and last letters.

The values of the harmonic component 2N in (73) and (74) must be estimated as about 0.133 N<sub>2</sub>, which is 0.011 feet for Cape Flora and 0.013 feet for Teplitz Bay, as this element was not evaluated from the observations. The perigean and apogean ranges are then found to be

					Cape Flora	Teplitz Bay	
					Ft.	Ft.	
Pn					1.103	1.274	<b>7</b> 5)
An					0.831	0.962	(76)

### SIMULTANEOUS TIDES

The observations were simultaneous at Cape Flora and Teplitz Bay for 14 days, from May 21 to June 3, 1904. The direct comparison of these stations during this period gives the following results:

Station	HWI	LWI	HW	LW	Mn	
Cape Flora . Teplitz Bay . Difference . LW diff Mean diff	h m 9 46.1 6 11.7 3 34.4 3 45.1 3 39.8	h m 3 38.0 12 18.1 3 45.1	Ft. 6.47 <b>4.83</b> 1.64 <b>1.81</b> 1.725	Ft. 5.41 3.60 1.81	Ft. 1.06 1.23 0.17	(77)

from which it appears that the tide at Teplitz Bay is about 3h 40m earlier than at Cape Flora; the zero of the tide staff at Teplitz Bay is 1.725 feet above the zero of the staff at Cape Flora, and the mean rise and fall, or range, of tides is 0.17 feet greater at Teplitz Bay than at Cape Flora.

Nearly the same difference in time of tide at these two stations is obtained from the mean lunitidal intervals of (3) and (4), which makes Teplitz Bay about 3h 31m earlier than Cape Flora.

#### COTIDAL HOURS

The cotidal lunar hour of a place may be found from the expression

Cotidal hour = 0.483 (HWI + LWI 
$$\pm$$
 6.210)  $\pm$  L (78)

in which L is the local longitude, positive for west and negative for east longitudes. The upper or lower sign is to be used with 6.210 according to which sign will make LWI approximately equal to HWI. Substituting in (78) the values given in (3) and (4), taking L = -3.332 hours for Cape Flora and L = -3.866 hours for Teplitz Bay, we obtain:

## RECAPITULATION

The various results which have been obtained are collected together in the following tables:

TIME RELATIONS	
Cape Flor	a Teplitz Bay
h m	h m
Establishment of the port 10 10	6 43
Mean of all high-water lunitidal intervals 9 44	6 14
Mean of all low-water lunitidal intervals	12 24
Mean of tropic higher high-water intervals 10 196	5 59a
Mean of tropic lower high-water intervals 9 oo	6 25
Mean of tropic higher low-water intervals 3 40	12 14
Mean of tropic lower low-water intervals	b 12 33a
Mean tropic high-water interval of diurnal wave 2 400	2 35a
Prime high-water interval 9 02	5 22
Lag high-water interval	7 06
Prime low-water interval 2 55	11 32
Lag low-water interval 4 20	13 16
Cotidal hour 6 o7	2 14
·	•
HEIGHT RELATIONS	
Cape Flor	ra Teplitz Bay Ft.
Mean of all high waters on tide staff 6.568	4.724
Mean of all low waters on tide staff 5.602	3.586
Mean of all higher high waters on tide staff 6.599	
Mean of all lower low waters on tide staff 5.396	
Mean of tropic higher high water on tide staff 6.613	4.754
Mean of tropic lower high water on tide staff 6.486	
Mean of tropic higher low water on tide staff 5.923	,
Mean of tropic lower low water on tide staff 5.331	3.485
Mean of all spring high waters on tide staff 6.697	4.897
Mean of all spring low waters on tide staff 5.473	3.412
Mean of all neap high waters on tide staff 6.399	4.467
Mean of all neap low waters on tide staff 5.771	_
Mean perigean high water on tide staff 6.636	
Mean perigean low water on tide staff	
Mean apogean high water on tide staff 6.501	
Tabella alposon - S	. •
Mean half-tide level on tide staff 6.085	4.155
Highest tide observed on tide staff 7.430	
Lowest tide observed on tide staff 4.630	2.860
RANGES, INEQUALITIES, ETC.	
Cape Flo	ra Teplitz Bay
Ft.	Ft.
Mean range or rise and fall of all tides 0.966	_
Mean range or rise and fall of spring tides 1.224	
Mean range or rise and fall of neap tides 0.628	•
Mean range of the great tropic tides 1.282	
Mean range of the small tropic tides	0.865

	Cape Flora	Teplitz Bay
Mean range of the tropic diurnal wave	0.606	0.292
Mean diurnal range—that is, Mean HHW — Mean LLW.	1.203	1.236
Mean range of perigean tides	1.103	1.274
Mean range of apogean tides	0.831	0.962
Mean high-water tropic diurnal inequality	0.127	0.175
Mean low-water tropic diurnal inequality	0.592	0.229
Mean age of the phase tides	2d 5.6h	2d 2.4h
Mean age of the parallax tides	2d 13.9h	1d 18.6h
Mean age of the diurnal tides	-od 15.9h	-od 21.5h

### QUANTITIES USEFUL FOR CLASSIFYING TIDES

~									
								Cape Flora	Teplitz Bay
$M_{2}^{\circ} - K_{1}^{\circ} - O_{1}^{\circ}$								202°	103°
								Ratio	Ratio
$(\mathbf{K}_1 + \mathbf{O}_1) \div \mathbf{M}_2  .$							s •	0.68	0.28
$S_2 \div M_2$								0.33	0.41
$HWQ \div Mn$								0.13	0.16
$LWQ \div Mn$								0.62	0.21
$Gc \div Mn$								1.35	1.15
$(Sg - Np) \div Mn$		•	•					0.63	0.78
Sequence							LLW	to HHW	HHW to LLW
								h $m$	h $m$
Duration of rise .								6 07	6 15
Duration of fall .								6 18	6 10

## GENERAL CONCLUSIONS

A comparison of the results obtained above indicates that the type of tide at Cape Flora is quite different from that at Teplitz Bay. It is interesting to trace out resemblances between the tides of Franz Josef Archipelago and those of more accessible portions of the earth. In some of the most prominent characteristics the tides of Cape Flora resemble those of Melbourne, Australia, while those of Teplitz Bay are in a similar way like those of Sitka, Alaska. It happens that both Melbourne and Sitka are in the Pacific Ocean, although widely separated, and some one might hastily conclude that the tides of Franz Josef Archipelago are derived from that ocean. But a very little consideration of the narrow and comparatively shallow opening at Bering Strait will convince one of the extreme improbability of the Arctic tides being derived from the Pacific Ocean to any appreciable extent.

The tide wave appears to reach Franz Josef Archipelago from the Atlantic Ocean by two channels, one between Norway and Spitzbergen and the other between Spitzbergen and Greenland. The latter channel being much deeper than the former, the tide wave from the Greenland channel reaches Teplitz Bay, in the northern portion of Franz Josef Archipelago, nearly four hours before the tide wave from the Norway channel arrives at Cape Flora, in the southern portion of the archipelago. The indications are (see maps 23, 25, and 26 of Appendix 5, Report of the United States Coast and Geodetic Survey for 1904) that the tide wave advances southerly through the channels between the various islands of the group and along their eastern coasts until it meets the southern wave a few miles east of Cape Flora, although no observations have been made to establish this statement.

# SECTION E

# ASTRONOMICAL OBSERVATIONS

AND

# REDUCTIONS

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# ASTRONOMICAL OBSERVATIONS

#### INSTRUMENTS

The Repsold Circle used by the Expedition at Teplitz Bay and Alger Island was secured through the courtesy of Professor Geelmuyden, Director of the Christiania Observatory. This instrument (see figure 1) is of the alt-azimuth type, with horizontal and vertical circles of 30 centimeters and 25 centimeters diameter respectively. The telescope is of the broken type, with the eyepiece at one end of the hollow horizontal axis, the opposite end of the axis providing for the illumination of the threads. The magnifying power of the telescope is about 40.4. The horizontal circle is graduated into divisions of four minutes of arc and is provided with four verniers, the least count of each being four seconds of arc. The scale of the vertical circle, situated at the opposite end of the horizontal axis from the eyepiece, is similarly divided into four-minute divisions and provided with two micrometers, whose heads are graduated into sixty parts, giving a least count of four seconds of arc. The vertical circle is so numbered as to give nadir distances. The weight of the telescope with alidade and clamps attached is 7.7 kilograms.

The reticule is a piece of glass engraved with seven vertical lines and two horizontal ones, the latter close together. The space between two consecutive vertical lines is crossed by an equatorial star in about twelve seconds of time.

The values of the divisions of the levels were determined in June, 1905, at Alger Island and found to be as follows:

Striding level, per division of 2.0 mm.	٠			2."98
Alidade level, per division of 1.8 mm.				2."16

Some of the secondary astronomical work was executed with two small 10-centimeter theodolites made by C. L. Berger and Sons, both vertical and horizontal circles being read to single minutes of arc by two verniers each. These were of the usual type of instrument (see figure 2) made for finer grade field work by this firm, with the addition of several features to render them more convenient for use in extremely low temperatures. All of the tangent and leveling screw milled heads had small ivory buttons set in the outer circumference about 3 millimeters in diameter and projecting about the same distance beyond the heads. The compass needle was mounted in a closed tube attached to the under side of the telescope, the glass ends of this tube being engraved with collimating lines. These instruments, with cases, are very light and were found extremely useful and convenient, particularly so in the field work of the Expedition.

Only two chronometers were carried; one, a mean time, and the other, a siderial time, both by Negus.

### OBSERVATORY AT TEPLITZ BAY

At the Teplitz Bay station an observatory 2.6 meters by 2.6 meters and 1.8 meter high, the floor being about one-half meter above the surface of the ground, was constructed of undressed lumber some 130 meters northwesterly from the dwelling-house (see figure 1 of "Section A" for sketch map showing its location in relation to balance of the camp). A small vestibule protected the entrance. The roof was covered with tarred paper. For the work of observation three shutters on hinges were built; two in the walls north and south of the instrument and one running the length of the roof. An exterior view of this building is shown in figure 3 (also in figure 1 of "Section C").

The pier for the Repsold Circle was built upon a large basalt boulder in an outcrop of rock and was composed of bricks laid in clear cement and surmounted by a capstone some 10 centimeters thick and 60 centimeters square. The pier was approximately 1.3 meter high and 0.5 meter square. The elevation above mean sea level of the top of the capstone is 18.739 meters.

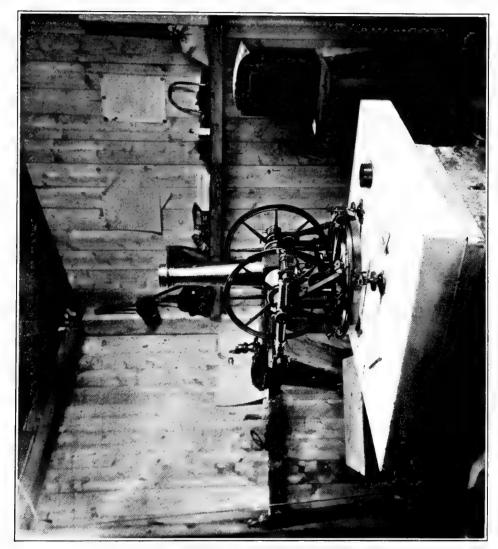
A collimator, used also as an approximate meridian mark through the dark period, was placed in the meridian north of the instrument and about 4.6 meters from it. This collimator consisted of one of the small theodolites by C. L. Berger and Sons mounted on a rock and cement pier. In the common focus of object glass and eyepiece were two closely spaced vertical threads. This space was bisected by the middle thread of the Repsold Circle at the beginning and middle of each time set. Illumination of the collimator was effected by a bull's-eye lantern placed just back of the eyepiece. The collimator was protected by a wood box resting on the basalt ledge, this box being covered, when not in use, by a cloth bag to prevent the entry of the fine snow which was almost constantly driving during the winter.

On the return of daylight (spring of 1904) a meridian mark was set up on the brow of Cape Auk 6,640 meters south of the observatory. A bull's-eye lantern at the cape was lined into the meridian in the evening by a prearranged system of rocket signals. During the first year this mark consisted of eight empty wood boxes set one on top of another and guyed with wire; snow was dug away to a rock foundation and a milk tin embedded there to mark the point. Later the boxes were replaced by a heavy plank. These marks appeared through the telescope of the Repsold Circle silhouetted against the sky.

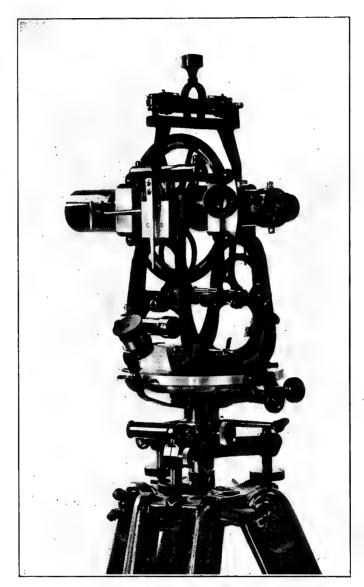
Chronometer time was obtained while observing by means of a sounder connected with the break-circuit siderial chronometer at the dwelling; a hack-watch gave the hour and minute, while a stop-watch served to identify the second at any time. Both mean and siderial chronometers were kept at the dwelling in an insulated box, and were wound and compared regularly each morning after breakfast.

The illumination of the Repsold Circle in the usual manner through the axis of the telescope was found to be defective. Accordingly a reflector, similar to those used in small theodolites, was made of zinc; this received the rays of light from a lamp placed near the wall of the observatory and threw them into the tube of the telescope. For reversing the telescope in the wyes in low temperatures a lifting device consisting of a two-pronged hook at the end of a phosphor bronze wire operating over pulleys was resorted to. By this means it could be suspended while the frost (condensation from the breath) could be removed from the wyes and pivots.

When the instrument was not in use it was covered, first, with a cone of cloth suspended from the roof, and, later, by a box of heavy paper inverted over the instrument and resting on the capstone.



VIEW OF INTERIOR OF OBSERVATORY AT TEPLITZ BAY SHOWING REPSOLD CIRCLE



10-CENTIMETER ALT-AZIMUTH INSTRUMENT

## OBSERVATIONS AT TEPLITZ BAY OBSERVATORY

#### LATITUDE

Latitude was determined by observing star altitudes in the meridian. These observations and results are summarized in the following tabulation:

Latitude observations at Teplitz Bay

Local mean date	Siderial time	Star	Circle	Mean of vertical circle readings corrected for level	Baroni- eter	Attached ther- mometer	Outside ther- mometer	Resulting lati- tude
1905	h m s			0 ./ //	In.	°F	°F	0 / //
April 11.38	12 42 01.5	ε Ursæ Majoris	E	154 38 12.9	30.805	+54.5	+4.0	j
	47 22.0		E	154 38 35.3			+4.0	8
	54 32.0	6 8 6 6	w	205 15 57.0			+4.0	81 47 34 4 N
	60 18.0	66 66	w	205 16 24.1			+7.0	J
	13 20 23.0	Polaris	w	170 32 54.6		. :	十7.0	ງ
	25 33.0	••	w	170 32 54.4			+7.0	
	<b>29 16</b> .0	44	w	170 32 53.8			+6.o	
	39 36.5	"	E	189 21 13.4			+6.o	81 47 35.4 N
	45 14.0		E	189 21 08.3			+6.o	
	4 <b>9 2</b> 3.0	. "	E	189 21 07.5			+6.0	}
	13 58 41.0	u Bootis	E	117 51 26.6			+6.o	1
	14 03 40.0	4.5	E	117 51 39.7	· · · · · · · · · ·		+6.0	
	14 27.0	**	w	242 02 19.9	30.770	+45.0	+6.0	} 81 47 33.3 N
	19 54.0	44	w	242 02 31.7			+4.0	]
	14 48 33.0	β Ursæ Minoris	w	187 12 08.9			+4.0	ו
	52 <b>2</b> 7.0	44 66	w	187 12 05.6			+4.0	
	59 33.0	66 66	E	172 41 33.5			+4.0	81 47 36.3 N
	63 39.5	66 55	E	172 40 37.7	30.755	+42.5	+3.0	]
				Adopted mean va	lue for l	atitude		81 47 34.9 N

The mean value for latitude resulting agrees closely with that determined by the Italian Expedition. The Italian astronomical station was not relocated. Direct comparison of values may, however, be made by reference to the magnetic station of 1899 to 1900 which is 136.42 meters, or 4.4 seconds of arc, south of the Ziegler Expedition astronomical observatory and 1.1 second of arc south of the astronomical station observed at by the Italian party. Their finally adopted latitude was 81° 47′ 26.″2,\* which referred to the station of 1905 would be 81° 47′ 29.″5; the two determinations thus agree within less than six seconds of arc, the mean of the two being 81° 47′ 32.″2.

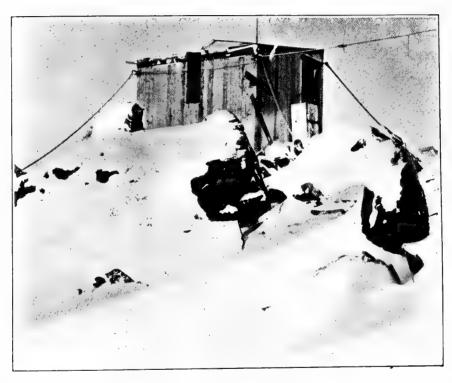
<sup>\*</sup>Osservazioni scientifiche esequite durante la spedizione Polare di S. A. R. Luigi Amedeo di Savoia, Duca degli Abruzzi. Milan, 1903. Pp. 105 and 447.

#### TIME AND LONGITUDE

On account of the sticking of the micrometer screws in the extreme cold weather time was determined by star transits in preference to measuring star altitudes. These transits have been reduced by the usual method of least squares.\* In connection with time observations, determinations of longitude were made during the winter of 1903 to 1904 by observing transits of the moon. This method was adopted in preference to the chronometric method in view of the small number of chronometers carried by the Expedition, these also being subject to many heavy shocks in navigating in the ice and exposed to very great changes of temperature. Numerous other complete transit sets were observed and reduced, but in view of the fact that they have been used primarily in the determination of corrections simply to local time, they are not published. The equatorial intervals of the reticule as determined from observations and used in the reduction of the various transit observations are as follows, the signs applying for "clamp east":

Period of observation	To November 2, 1903	November 3, 1903, to January 7, 1904	January 8, 1904, to February 19, 1904
Thread I	-35.378	s -35.778	s -35.267
II	23.638	-23.865	23.504
III	11.756	11.904	11.862
IV	- 0.089	+ 0.030	- o.148
v	+11.881	+11.895	+11.821
VI	+23.619	+23.835	+23.504
VII	+35.398	+35.784	+35.476

<sup>\*</sup>Text-book of geodetic astronomy, by John F. Hayford. New York, 1898.



VIEW SHOWING EXTERIOR OF OBSERVATORY AT TEPLITZ BAY

In the following tabulation of transit observations only those involving moon culminations are included:

# Tabulation of transit observations at Teplitz Bay

Local astronom- ical date	Star	Culmination	Circle	No. of threads	Chronometer time of mean thread	Level	ΔΤ	Δp²	Remarks
N 6 -			***		h m s	d	h m s		
Nov. 6.5	17 Tauri	U	W	7	23 44 01.64	+16.4	3 55 09.09	0.1217	
	η Tauri	U	W W	7	46 37.49	+10.9	09.58	0.0129	
		U	w	7	0 00 12.51	+12.4	09.58		
	ე ε Tauri ,	U	w	7	27 51.47	+10.9 $+6.6$	09.57	0.0106	Very faint
	α Tauri	U	w	7	35 15.41	+11.4	09.52	0.0033	, cry rumo
	ε Ursæ Minoris	L	w	7	1 00 34.94	+12.3	09.32	0.0016	Cloudy
•							-		
Nov. 7.4	a Ursæ Minoris	U	W	7	21 29 43.71	+13.7	3 55 17.91	0.0020	
	4 Ursæ Minoris	L,	W	7	22 13 57.00	+10.7	16.02 16.02	0.0004	
	ρ Bootis	L	W	7	32 27,26	+15.6		0.0052	
	γ Persei	U	W	7	23 02 37.41	+15.5	15.63	0.0402	
	θ Draconis	1	E	7	0 04 49.53	+ 9.5 + 7.6	15.67	0.0129	
	τ Herculis	L U	E	7	23 35·94 35 12.14	+6.3	16.16	0.0460	
		บ	E	7	55 31.96	+ 8.3	15.91	0.0006	
	ι Aurigæ	_	E	7	1 20 04.90	+ 8.4			
	© β Tauri	U	E	7	25 00.50	+ 8.8	16.02	0.0053	
	ζ Tauri	บ	E	7	36 41.63	+ 6.1	15.90	0.0014	
	35 Draconis	-	E	5	58 29.09	+ 7.5	15.59	0,0098	
	χ Draconis	L	E	7	2 27 32.29	+ 6.2	15.61	0,0152	
				`		1		0.0656	
Nov. 8.6	η Geminorum	U	E	5	2 13 47.12	+ 3.4	3 55 20.35	1	
	©	U	E	7	23 52.41	+ 3.4	19.87	0.0415	
	γ Geminorum	U	E	7	36 52.41	+ 4.2	21.18	1.0527	Temp.: -40° Fahr.
	e Geminorum	U	E	7	42 42.57	+ 2.8	19.40	0.3098	
	μ Ursæ Majoris	1	E	6	6 21 16.65	$\begin{vmatrix} + 5.4 \\ + 2.7 \end{vmatrix}$	20.50	0.0159	
	9 H Draconis	1	E	5		+ 4.4	19.86	1	
	η Pegasi		E	7	43 11.50	+ 4.5	19.70	0.0578	
	β Ursæ Majoris	l .	E	6	09 36.39	+ 5.5	20,23	0.0022	
	π Cephei	1	E	7	17 57.21	+ 0.1	19.70	0.1126	
	ν Ursæ Majoris	U	E	7	40 14.21	+ 9.6	21,22	0.1040	
	γ Cephei		w	7	48 48.56	+ 8.0	20.26	0.0308	
	β Leonis		w	7	8 12 10.15	+ 7.9	20.79	0.0353	Faint
	4 H Draconis		w	5	39 47.90	+ 9.4	19.84	0.0242	
	a Cassiopeiæ		w	7	48 01.77	+ 9.4	19.86	0.0189	
	η Cassiopeiæ		·w	7	56 09.81	+ 9.3	19.90	0.0233	
	12 Canum Venaticorum.	U	W	7	30 09.01	1 3.3			

Local astronom- ical date	Star	Culmination	Circle	No. of threads	Chronometer time of mean thread	Level	ΔT	Δp²	Remarks
N	r Coming on the control of the contr	TY	337		h m s	d	h m s		Tomb 4 and The Land
Nov. 9.6	ξ Geminorum		W	7	2 44 30.77	+ 5.6		0.0240	Temp.: — 38° Fahr.
	⟨ Geminorum	U	W	7	3 03 01.16		27.12	0.0360	
	λ Geminorum	U	W	7	17 10.70		27.27	0.0025	
	©	U	W	7	24 34.67				
	a Geminorum	U	W	7	33 03.83		27.45	0.0130	
	a Canis Minoris	U	W	7	38 52.63	+10.6	27.48	0.0256	Marian de la compa
	β Germinorum	Ü	W	7	44 01.84	+12.1	27.41	o.co63	Temp.: —42° Fahr.
Nov. 10.7	β Cancri	U	E	3	4 15 48.34	+12.2	3 55 22.08	1000.0	Very faint
	C	U	E	7	23 10.50	+10.4			Temp. : — 47° Fahr.
	δ Cancri	U	E	4	43 43 43	+12.5	22.05	0.0015	Very faint
	ζ Hydræ	U	E	4	54 48.58	+10.7	22.14	0.0025	Very faint
Dec. 6.0	19 H Camelopardalis	I.	E	7	13 09 53.81	+28.5	3 57 06.97	1.0234	Temp.: -25° Fahr.
	β Tauri	1	E	7	23 05.09	-17.2	11.34	0.0484	11,
	β Draconis	U	E	7	31 05.29	16.7	10.97	0.0083	
	ι Herculis	U	E	7	39 35.11	-18.8	10.90	0,0240	
	ψ Draconis	U	E	7	46 28.11	—19.6	10.35	0.0787	
	δ Aurigæ	L	E	6	54 08.99	-17.8	11.37	0.0328	i
	η Geminorum*	L	E	7	14 11 56.69	-19.3	11.10	0.0000	
	μ Geminorum*	L,	E	7	20 00.66	19.5	11.28	0.0292	
	C	L,	E	7	26 14.33	-19.7			
	γ Geminorum	L,	E	7	35 01.71	-18.7	11.04	0.0034	
	€ Geminorum	L,	E	7	40 52.93	<b>—20.3</b>	11.24	0.0171	
	R Lyræ*	U	w	7	55 14.18	_ 5.o	11.06	0,0010	
	25 Camelopardalis	L,	w	7	15 13 52.49	- 4.4	12.39	0.0499	
	β Cygni	U	w	7	29 40.41	- 2.0	11.23	0.0144	
	θ Cygni	U	w	7	36 41,31	- 3.5	11.15	0.0013	
		L	W	6	42 18.61	- 3.4	10.84	0.0575	
Dec. 6.5	ν Aurigæ	U	E	7	T 47 4T 20	— I,o	2 57 11 54	0.0284	Temp.: — 30° Fahr.
Dec. 0.5	22 Camelopardalis	บ	E	6	1 47 41.39	_ 1,0 _ 0.8	3 57 11.54	-	темр. : — 30 ганг.
	ν Geminorum*	U	E	6	26 06.53	+ 0.5	11.99	0.0112	Faint
	γ Geminorum	U	E	ļ	35 00.68	+ 0.7	11.74	0.0008	- 4146
	ξ Geminorum	U	E	7	42 44.49		11.71	0,0600	   Very faint
	©	U	E	7	58 13.80	— o.i	,	0,0000	Limb "boiling" violently
	ß Geminorum	บ	E	7	3 01 15.51	- 0.1	11.71	0.0008	Aumo noming violently
	λ Geminorum	υ	E	7	15 25.11	— o.8	11.70	0.0015	Very faint
	τ Draconis	L	E	5	20 10,22	— I.2	12.28	0.0350	, or i aidt
	¿ Cygni		E	7	30 05.40	— I.7	11.47	0.0350	,
		~	~	<b>'</b>	35 03.40	, 1.7	11.4/	0.0304	

<sup>\*</sup> From American Ephemeris; all other stars from Berliner Jahrbuch.

Dec 7.1	24 H Camelopardalis			No.	of mean thread	Level	ΔΤ	Δ p <sup>2</sup>	Remarks '
		L	E	2	h m s	$\frac{d}{+8.6}$	h m s	0.0025	A 41
	R Lyræ	1	E	7	55 11.11	1	13.82	0.0126	Atmosphere clear
	γ Lyræ	U	E	7	58 07.82	+ 1.0	13.63	0.0120	
	δ Geminorum	L	E	7	15 17 12.51	+ 0.1	13.67	0.0001	1
	ι Geminorum	L	E	7	22 35.09	i ·	13.60	0.0056	
	C	L	E	7	30 01.34		13.00		
	κ Geminorum	L	E	7	41 28.24	+ 7.5	13.68	0.0000	1
	€ Draconis		E	6	51 14.42	+ 7.5	13.78	0.0017	
	к Серћеі	1	w	7	16 14 48.41	+19.1	12.38	0.0060	
	γ Cygni	1	w	7	21 32.49	+19.3	13.79	0.0088	
	o Ursæ Majoris	1	w	6	25 08.65	+19.5	1	0.0168	
	θ Cephei	1	w	i 7	30 42.12	+19.6		0.0085	
	a Cygni	1	w	7	40 54.74	+22.5	-	0.0170	
	ι Ursæ Majoris	1	w	. 7	55 28.13	+23.2	, •	0.0008	
	I H Draconis		W	4	17 26 24.56	+21.9	13.04	0.0065	
ec. 7.6	β Canis Minoris	U	E	7	3 24 43.34	+25.3	3 57 19.39	0.0001	
	ι Cygni	L	E	7	3 30 03.61	+19.9	1	0.0128	
	a Canis Minoris	U	E	7	37 03.23	+23.2	19.51	0.0167	
	β Geminorum	U	E	7	42 12.49	+23.5		0.0054	
	€ Draconis	L	E	7	51 17.91	+21.1	19.60	0.0087	
Ì	C	U	E	7	4 01 25.84	+18.9			Edge slightly "boiling"
1	ζ Cancri*	U	E	6	09 28.62	+20.2		0.0015	
].	β Cancri	U	E	7	14 04.61	+22.4	19.67	0.0824	
-	γ Cygni	L,	E	6	21 33.30	+23.2		0.0202	
1	o Ursæ Majoris	U	E	7	25 01.73	+20.7	19.11	0.0233	Drift rising
ec. 30.3	50 Cassiopeiæ	U	w	7	21 56 44.39	+ 0.7	3 58 31.92	0.0322	
	λ Bootis	L	W	7	22 14 09.30	- 1.4	31.28	0.0198	
	$\theta$ Bootis	L	w	7	23 20.43	+ 0.3	31.45	0.0000	
	5 Ursæ Minoris*	L,	w	4	29 02.99		32.15	0.0345	
	θ Persei	U	w	7	38 07.53	- 2.7	31.49	0.0006	
	τ Persei	U	w	7	48 56.26	0.5	31.34	0.0072	
,	δ Arietis	U	E	5	23 07 36.12	- 1.9	31.48	0.0004	
	ξ Arietis*	U	E	3		- 2.0	31.42	0.0012	
1		U	E	7	i	- 8.o			
		U	E	7	41 44.91	1		0.0054	Hazy
1		L	E	7		+ 1.0		0.0272	Atmosphere slightly hazy
- 1		L	E	7	27 48.36		41.42	0.02/2	remosphere sugnery nazy

<sup>\*</sup> From American Ephemeris; all other stars from Berliner Jahrbuch.

Local astronom- ical date	Star	Culmination	Circle	No. of threads	Chronometer time of mean thread	Level	ΔΥ	Δ p <sup>2</sup>	Remarks
<b>Jan.</b> 1.9	ζ Tauri	L,	E	7	h m s 33 13.83	$-\frac{d}{2.4}$	h m s 41.37	0.0401	Temp.: — 20° Fahr.
	ι Herculis	U	E	6	38 00.95		41.69	0.0069	
	<b>3</b>	L	E	7	49 19.07				
	35 Draconis	U	E	7	54 56.13		41.85	0.0059	]
	22 H Camelopardalis	L	E	7	14 09 37.53		41.99	0.0320	
	χ Draconis	U	E	7	24 00.56		41.71	0.0025	
	u Lyræ	U	w	7	34 58.01		41.61	0.0006	
	€ Geminorum	L,	w	7	39 21.01	1	41.31	0.0634	in a set of the set of
	15 Lyncis	L	w	7	50 17.91		41 77	0.0133	
	R Lyræ	U	W	7	53 41.17		41.71	0.0108	
	25 Camelopardalis*	L,	w	7	15 12 19.89	+ 0.4	42.47	0.0240	
Jan. 2.4	ψ¹ Draconis	L	W	4	1 44 49.86		3 58 42.75	0.0219	
	35 Draconis	L	W	6	54 53.79	- 1.3	43.36	0.0032	· ·
	η Geminorum	U	W	7	2 10 22.69	0.0	43.05	0.0109	
	μ Geminorum	U	W	7	18 26.80	0.0	43.12	0.0014	
	<b>D</b>	U	W	7	21 49.09	0.0			
	γ Geminorum	U	w	7	33 27.40	0.0	43.22	0.0034	
	ξ Geminorum	U	W	7	41 11.59	— o.5	43.10	0.0035	
	o Draconis	L	W	7	51 00.14	0.0	43.45	0.0294	
	R Lyræ	L,	W	5	53 38.78	0.0	43.34	0.0191	
	25 Camelopardalis*	U	E	6	3 12 21.76	0.0	42.82	0.0035	
	τ Draconis	L,	E	6	18 36.81	0.0	41.85	0.2402	
	ρ Geminorum	U	E	7	24 13.79	- 4.6	43.07	0.0066	Probably ice on pivot (see level)
	a Geminorum	U	E	7	29 45.96	— 4.6	43.02	0.0159	level)
	θ Cygni	L,	E	7	35 05.56	0.0	43.41	0.0331	
_	δ Cygni	L,	E	7	43 12.13	0.0	43.54	0.0896	
Jan. 3.5	25 Camelopardalis*	U	E	6	3 12 16.78	- 0.3	3 58 47.29	0.0001	Atmosphere clear
	ι Geminorum	U	E	7	20 59.69	+ 1.0	47.17	0.0218	
	©	U	E	7	29 37.61	+ 2.0		*****	
	α Canis Minoris	U	E	7	35 30.23	+ 4.0	47.18	0.0223	
	χ Geminorum	U	E	7	39 52.37	+ 1.1	47.62	0.0740	
	δ Cygni	L,	E	6	43 08.83	- I.I	47.64	0.0577	
	e Draconis	L,	E	7	49 39.26	— o.5	47.20	0.0030	
	o¹ sq. Cygni	L,	E	7	4 11 47.29	- 3.5	47.13	0.0236	
	o Ursæ Majoris	U	W	7	23 31.83	+ 2.2	47.40	0.0016	
	θ Cephei	L,	W	7	29 08.26	+ 3.9	47.67	0.0347	
	α Cygni	L	W	7	39 20.51	+ 2.9	47.23	0.0062	
		L,	W	7	44 08.81	+ 3.4	47.20	0.0068	
	Ursæ Majoris	U	W	7	51 51.81	+ 2.5	47.35	0.0002	
	σ² Ursæ Majoris	U	w	7	5 03 11.43	+ 4.1	47.17	0.0035	

<sup>\*</sup>From American Ephemeris; all other stars from Berliner Jahrbuch.

Local astronom- ical date	Star	Culmination	Circle	No. of threads	Chronometer- time of mean thread	Level	ΔΤ	Δp²	Remarks
					h m s	d	h m s		
Jan. 4.0	25 Camelopardalis*		W	7	15 12 17.23	+ 6.9	3 58 48.41	0.0016	
	» Geminorum	L,	W	6	20 58,28	+ 6.0	48.64	0.0000	
	χ Geminorum	L	W	7	39 51.44	+ 1.1	48.53	0.0106	
	δ Sagittæ	U	W	5	44 16.02		48,66	0,0003	
	C	L	W	7	16 02 04.47				
	χ Cephei	U	w	4	13 15.45		47.37	0.0965	
	γ Cygni	U	W	7	19 56.17	1	48.89	0.0042	
	η Cephei	U	E;	7	44 29.60	_	48.75	0.0038	
	χ Ursæ Majoris	L	E	7	58 16.93		48.66	0,0002	
	τ Cygni	U	E	7	17 12 07.69		48.59	0.0018	
	α Cephei	U	E	7	17 27.23		48.69	0.0007	
	I H Draconis	L	E,	4	24 40.84	— 2.I	48.54	0.0003	
Jan. 23.1	9 H Draconis	L	E	7	18 2 <b>6</b> 57.36	-30.7	3 59 52.58	0.0052	Adjusted level
	10 Lacertæ	U	E	7	35 04.66	+ 1.6	52.90	0.0046	
	ι Cephei	U	E	7	46 24.14	+ 1.1	52.45	0.0324	Weather: clear
	ß Ursæ Majoris	L,	E	7	56 09.94	— I.o	52.72	0.0040	Temp.: 12° Fahr.
	π Cephei	U	E	7	19 04 59.69	— о. т	53.06	0.0058	
	ν Ursæ Majoris	L	E	7	13 24.87	- 0.1	52.92	0.0079	
	θ Piscium*	U	w	5	23 11.75	+ 5.9	52.81	0.0001	
	γ Cephei	U	w	7	35 25.60	+ 5.9	53.00	0.0026	
	γ Ursæ Majoris	L	w	7	48 56.70	+ 1.6	52.58	0.0259	
	ω Piscium	U	w	7	54 28.84	+ 7.3	52.75	0.0048	
	4 H Draconis	L	w	6	20 07 55.46	+10.5	53.86	0.0756	
	ື້ວ	U	w	7	18 36.69	+ 9.7			
	8 Canum Venaticorum.	L	w	6	29 20.25	+11.4	52.77	0.0016	
	ζ Cassiopeiæ	U		6	31 42.45		52.87	0.0010	•
	δ Andromedæ	U		6	34 17.41	+ 8.1	52.95	0.0132	
Jan. 27.8	γ Tauri				11 30 30.7				Occultation: observed emer- sion with Berger and Sons alt-azimuth
	4 Daniel	T	E	7	11 48 03.31	+ 6.4	4 00 09.23	0.0003	Atmosphere clear
	¿ Persei	L,		/ /	51 22.27		09.41	0.0179	Temp.: - 28° Fahr.
	ε Persei.	L	E	7	58 58.20	1	09.39	0.0127	Faint
	A <sup>1</sup> Tauri*	L	E,	3	12 13 22.61	+ 7.0	09.43	0.0016	
	19 Ursæ Minoris	U	E,		1	+ 6.9			Edge "boiling" slightly
	<b>D</b>	L,	E,	7	13 59.24 20 08.21	+ 7.1	09.04	0.0036	
	η Ursæ Minoris*	U	E	5	1	1	09.04	0.0334	
	e Tauri	L	E	4	22 57.99	+ 7.6	09.04	0.0014	Star dancing
	a Tauri	L	E	6	30 21.87	1	1	0.0004	, .
	τ Tauri	L,	E	7	36 26.27	+ 7.6	09.27	1	
	9 Camelopardalis	L	E,	7	44 30.46	+ 7.8	09.33	0.0015	

<sup>\*</sup>From American Ephemeris; all other stars from Berliner Jahrbuch.

Local astronom- ical date	Star	Culmination	Circle	No. of threads	Chronometer time of mean thread	Level	ΔΤ	Δp²	Remarks
Jan. 27.8	e Ursæ Minoris	U	w	6	h m s 55 20.59	d + 14.5	h m s	0.0123	Star dancing
Juli 27.0	19 H Camelopardalis	L	w	7	13 05 57.34	+14.5	08.97	0.0039	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
	π Herculis	U	w	7	10 35.63	+15.8	09.21	0,0011	
	β Tauri	L	w	7	20 12.67	+14.9	09.32	0,0041	
	χ Aurigæ*	L,	w	6	26 28 40	+15.1	09.21	0.0012	
	β Draconis	U	w	4	28 05.75?	+15.3	09.36	0.0050	•
	θ¹ Tauri				14 58 33.4				Occulations: emersions of served with Berger ar
	θ <sup>2</sup> Tauri	• • • •			15 03 19.5		• • • • •		Sons' alt-azimuth
Jan. 28.3	δ¹ Tauri*	U	W	7	0 17 16.87	+ 1.0	4 00 10.61	0.0076	Atmosphere clear
	δ <sup>3</sup> Tauri*	U	W	6	19 49.01		10.62	0.0088	Temp: — 26° Fahr.
	θ¹ Tauri*	U	W	7	22 58.59		10.26	0.0642	
	81 Tauri*	U	W	7	23 03.80	• • • • •	10.53	0.0001	
	a Tauri*		W	7	30 17.60		10.69	0.0272	
	σ² Tauri*		w	6	33 40.18 43 4 <sup>2</sup> ·53	+ 0.5	10.40	0.0112	Very poor definition; fr
	ι Tauri	U	w	4	45 38.70		10.39	0.0127	min over rens or ocurar
	ε Ursæ Minoris	L,	W	7	56 38.81	+ 2.9	10.36	ó.0008	
	19 H Camelopardalis	U	W	5	1 06 36.70		10.56	0.0001	
	III Tauri		W	7	18 42.24		10.69	0.0272	
	119 Tauri	U	W	7	26 28.20	+ 4.9	10.49	0.0008	Drift rising
Jan. 29.8	ζ Tauri	L	w	7	13 31 43.17	+ 3.8	4 00 17.02	0.0045	Atmosphere clear
	4 Herculis	U	W	7	36 29.19		16.89	0,0022	Temp. : — 25° Fahr.
	ψ¹ Draconis	U	W		43 17.48	+ 4.4	17.08	0.0025	
	θ Aurigæ	L	W	7	52 59.87	+ 4.6	17.02	0.0036	
	22 H Camelopardalis	L	W	7	14 08 09.71	+ 4.8	16.82	0.0034	
	<b>D</b>		W	7	17 31.17	+ 7.7			"Boiling" vigorously
	ν Geminorum*		W	7	23 04.21	+ 6.2	17.29	0.1064	
	6 Geminorum.	1	W	7	31 50.59	+ 6.2	16.83	0.0125	
	15 Lyncis	L	W	7	48 49.47	+ 6.3	16.67	0.0282	
	R Lyræ		W	6	52 08.49		16.70	0.0400	
	τ Draconis	Į.	E	7	10 50.56	+ 4.2	18.29 16.82	0.0539	
	ρ Geminorum		E	7	22 43.80		16.78	0.0022	
	ι Cygni	U	E	5	27 01.74		17.01	0.0018	
	θ Cygni	l	E	7	33 36.63	+ 2.0	16.87	0.0034	
	β Geminorum		E	7	39 13.80	+ 3.0	17.04	0.0069	
Jan. 30.4	δ Aurigæ	U	E	7	1 51 23.81	0.0	4 00 19.65	0.0149	
ја <b>н.</b> ე0.4	$\gamma$ Draconis	1	E	5	54 04.65		19.40	0.0024	
	• Herculis	-4	E	7	2 03 30.27	+ 0.8	19.48	0.0102	

<sup>\*</sup>From American Ephemeris; all other stars from Berliner Jahrbuch.

Local astronom- ical date	Star	Culmination	Circle	No. of threads	Chronometer time of mean thread	Level	<b>AT</b>	Δ p <sup>2</sup>	Remarks
Jan. 30.4	22 Camelopardalis	U	E	-	h m s 08 04.74	d - 1,2	h m s	0.0222	
Jan. 30.4	μ Geminorum	U	E	7	16 55.26		19.12	0.0233	
	χ Draconis	L	E	7 7	22 26.31		19.72	0.0087	
	γ Geminorum	U	w	7	31 54.67	+ 5.4	19.72	0.0240	
	e Geminorum	U	w	6	37 45.82	+ 7.8	19.56	0.0070	
	ξ Geminorum	-	w	7	39 38.66	+ 7.8	19.42	0.0024	
	$\theta$ Geminorum		w	6	46 11.98	, , , , ,	19.55	0.0050	
	<b>D</b>		w	7	49 50.05	+ 5.0			
	ζ Geminorum		w	7	58 09.53	+ 7.0	19.28	0.0329	
	25 Camelopardalis*		W	6	3 10 06.14		20.77	0.0507	
	$\tau$ Draconis	l	w	6	17 08.44		19.98	0.0337	
	β Canis Minoris		w	5	21 41.19	+ 9.6	19.45	0.0004	
	ι Cygni	ŀ	w	7	27 00.80		19.71	0.0288	
Jan. 30.9	$\theta$ Geminorum		w	7	14 46 12.26	+ 6.9	4 00 21.13	0.0020	Atmosphere clear
<b>3</b> 3 - 7	15 Lyncis	l	w	7	48 44.53		21.08	0,0000	Temp.: — 28° Fahr.
	ζ Geminorum	i	w	7	58 08.87	+ 6.9	21.21	0.0154	тешр — 26 гашт.
	25 Camelopardalis*		w	7	15 10 56.29	+ 5.0	20.67	0,0050	
	Draconis		w	5	16 57.92	+ 5.0	20.95	0,0022	
	<b>3</b>	ļ	w	7	22 25.48	+ 7.2			Edge "boiling" moderately
	a Geminorum		w	7	28 12.69	+ 7.2	i	0.0051	and months
	χ Geminorum	L	w	7	38 23.13	+ 8.0	21.26	0.0285	
	β Geminorum		w	3	39 11.23	+ 8.0	20.67	0.1429	
Feb. 1.5	ε Hydræ	U	w	7	4 41 16.46	+10.4	4 00 27.19	0.0253	Atmosphere clear
1	ζ Hydræ	U	W	6	49 53.85	+ 1.3	27.49	0.0194	Temp.: — 26.5° Fahr.
i	<b>3</b>	U	W	7	59 33.64	+ 3.1			
	©	U	w	7	5 01 58.41	+ 3.1		*****	
	40 Lyncis	U	W	7	14 46.84	+ 3.9	4 00 27.47	0.0111	
	I H Draconis	U	w	7	23 01.56	+ 5.6	26.63	0.0156	
.i	• Leonis*	U	w	7	35 36.34	+ 3.9	27.16	0.0354	
	π Cephei	L	w	7	40 04.17	+ 3.2	27.39	0.0003	
	π² Cygni	L	w	2 .	42 48.13	+ 2.6	27.21	0.0108	
	μ Leonis*	U	W	6	46 52.37	+ 2.0	27.57	0.0416	
	ι Pegasi	L,	E	7	6 02 04.64	- 1.0	27.63	0.0690	
	24 Cephei	L	E	7	07 28.04	- 1.8	27.57	0.0073	
	λ Ursæ Majoris	U	E,	6	10 54.26	- 2.6	27.35	0.0000	
	30 H Ursæ Majoris	U	E	6	16 49.59	<b>— 3.4</b>	27.38	0,0002	
	3 Lacertæ	L	E	1	19 19.42	- 4.2	26.77	0.1682	
İ	9 H Draconis	U	E	7	26 35.63	- 4.9	27.30	0.0002	

<sup>\*</sup>From American Ephemeris; all other stars from Berliner Jahrbuch.

As will be noted from the above tabulation, twenty-two Moon culminations were observed, as also three occultations of fixed stars for the determination of longitude. These have been reduced by the methods developed by Chauvenet.\*

The observed corrections at the Greenwich Observatory to the Moon's positions as given by the Nautical Almanac have been kindly supplied by courtesy of the Astronomer Royal. In accordance with Peirce's method of correcting the Ephemeris, formulæ of the form  $X = A + Bt + Ct^2$  for the various periods of observation have been derived by the method of least squares, and the corrections at the particular times of observation computed therefrom. The coefficients of the formulæ are as follows:

Period	No. of equations of condition	Assumed epoch	A	В	С
1903-1904		1903-1904	s	s	5
November 1 to 14	5	November 8.0	- o.153	-0.0231	0,0064
November 29 to December 13	1.1	December 6.5	-0.054	—o.o193	-0.0017
December 29 to January 10	7	January 4.0	-0.582	-0.0192	-0.0098
January 22 to February 6	6	January 30.0	0.680	0.0149	-0.0090

The corrections for declination in the case of the reduction of the occultations have been determined graphically.

The results for longitude are shown in the tabulations following, the various column headings of which indicate the steps in the computations after the notation used by Chauvenet. The mean results of this work are as follows:

Mean longitude east of Greenwich of the astronomical observatory at '	Teplitz	h	m	s s
Bay derived from twenty-two Moon culminations				
Mean value derived from three occultations of fixed stars		3	51	58.6 (± 1.1)
Weighted mean longitude east of Greenwich		3	51	52.6 (± 1.3)

This value is somewhat less than that obtained by the Italian Expedition when referred to the same point. As stated above, the Italian astronomical station was not relocated; a direct comparison of the values may, however, be made by reference to the magnetic station occupied by Commander Cagni. This station, which was 0.8 second of arc west  $\dagger$  of the Italian astronomic observing point, is 6.71 meters or 0.1 second of arc west of the astronomic observatory of the Ziegler Expedition. The final result adopted from the observations of 1899 to 1900 was  $3^h$   $52^m$   $16^s$  ( $\pm$   $2^s$ ) east of Greenwich, which, referred to the station of 1903 to 1905, would be  $3^h$   $52^m$   $15.^s$ 3. There is thus a difference between the two determinations of about 23 seconds of time. It may be noted that the probable errors of the two values are of about the same order.

<sup>\*</sup> Practical and spherical astronomy, by William Chauvenet. Philadelphia, 1885, 5th edition, volume I, pp. 350 to 370 and 549 to 565.

<sup>†</sup> Osservazioni scientifiche esequite durante la spedizione Polare di S. A. R. Luigi Amedeo di Savoia, Duca degli Abruzzi. Milan, 1903, pp. 105 and 447.

Summary of Moon culmination observations and results for longitude

	tronomical ate	liı	ulmi tior nb, circl	ı, and		tin	ometer ne ansit		Mo	ating	Time of pass- ing threads	Reduc- tion to center	Azimuth, collima- tion, and level correction	rig sion		scen- Ioon's
	-1904 r 6.5 7.6 8.6 9.6	ט ט ט ט	II II II II	W E W E	h o I 2 3 4	m 19 20 21 23 24	s 21.69 04.90 52.41 34.67 10 50	# 3 + 3 + 3 + 3 + 3	55 55 55 55	s 09.56 16.00 20.47 27.32 22.09	76.9 76.9 77.6 76.9 76.1	s - 69.52 - 70.56 - 70.95 - 70.63 - 69.77	\$ + 0.47 - 2.66 - 2.09 - 3.21 + 8.20	h 4 5 6 7 8	13 14 15 17	\$ 22.20 07.68 59.84 48.15 31.02
December	6.6.0	TULUU	II II II II	EEEE	14 2 15 4 23	26 58 30 01 16	14.33 13.80 01.34 25.84 18.53	+3 +3 +3 +3	57 57 57	11.14 11.77 13.65 19.38 31.45	77·3 77·4 77·4 76.4 75.6	72.10 72.00 71.69 71.21 +- 68.01	- 1.76 1.38 1.95 5.04 + 1.71	18 6 19 7 27	22 54 26 57 15	11.61 12.19 01.35 <b>28</b> .96 59.70
January	1.9 2.4 3.5 4.0 23.2	LUULU	I II II I	E W E W	13 2 3 16 20	49 21 29 02 20	19.07 4 <b>9.</b> 09 37.61 04.47 <b>36.</b> 69	+3 +3 +3 +3	58 58 58 58 59	43.12	78.3 77.6 76.9 76.9 73.5	+ 72.46 + 72.80 - 72.76 - 72.39 + 61.73	+ 0.72 + 0.83 + 0.62 + 0.70 + 0.93	17 6 7 19 24	49 21 27 59 21	13.83 45.84 12.65 41.43 32.20
	27.8 28.3 29.8 30.4 30.9	U L U	I I I I	E W W W	12 0 14 2 15	13 43 17 49 22	59.24 42.53 31.17 50.05 25.48	+ 4 + 4 + 4 + 4 + 4	00 00	09.26 10.52 17.16 19.42 21.24	76.7 77.2 78.6 77.3 77.6	+ 69.10 + 70.11 + 72.34 + 72.70 + 72.82	- 5.52 - 2.60 - 4.39 - 2.50 - 3.59	16 4 18 6 19	15 45 18 51 23	12.08 00.56 56.29 19.67 55.95
February	I.5 I.5	U	I	W W	4 5	59 01	33.64 58.41			27.28 27.28	75.1 74.9	+ 71.96 71.96	- 0.40 - 0.40	9 9	0I 0I	12.48 13.33

Summary of Moon culmination observations and results for longtitude-Continued

	tronomical late		aso at G	n's rigi cension reenwic an time	ch	<i>x'</i>	-x"	me	an t	wich ime of vation	sid	eria	wich l time erva- n	R	tud	iting lo e east eenwic	of
	3-1904 r 6.5 7.6 8.6 9.6	5 6 7	m 12 13 15 17		h 9 10 11 12 13	s + 1323.91 + 1119.46 + 985.96 + 850.20 + 650.89	s - 0.33 - 0.13 + 0.01 + 0.07 + 0.07	10 11 12 13	m 22 18 16 14	s 03.58 39.33 25.97 10.27 50.96	h 0 1 2 3 4	22 24	\$ 42.03 23.62 16.32 06.68 53.22	h 3	<i>m</i> 51	\$ 40.2 44.0 43.5 41.5 37.8	s
December	r 6.o 6.5 7.1 7.5	6 6 7 7	20	43.18 01.20 34.96	2I IO 22 II 4	+ 2069.09 + 257.95 + 2044.24 + 215.17 + 3138.77	0.00 0.00 + 0.53 + 0.01 - 3.41	2I IO 22 II	34 04 34 03 52		14 3 15 4 23		28.00 20 01 10.00 43.54 03.53			43.6 52.2 51.4 45.4 56.2	
January	1.9 2.4 3.5 4.0	5 6 7 7 24	48 19 25 58 20	34.42 46.32 09.64 55.97 46.37	19 7 8 21 24	+ 914.13 + 2747.13 + 2828.59 + 1055.65 + 1439.76	- 0.12 - 0.52 + 0.60 + 0.08 + 0.23	7 8 21 0	15 45 47 17 23	14.01 46.61 09.19 35.73 59.99	13 2 3 16 20	57 29 35 97 29	17.07 52.96 22.18 52.00 41.45	ì		56.8 52.9 50.5 49.4 50.8	
	27.8 28.3 29.8 30.4 30.9	4 6 6	12 43 16 50 21	52.98 55.08 35.73 14.36 31.07	15 4 17 6 18	+ 3547.73 + 1622.52 + 3277.55 + 1506.99 + 3329.97	- 4.01 - 0.79 - 1.57 - 0.17 - 0.12	15 4 17 6 18	59 27 54 25 55	03.72 01.73 35.98 06.82 29.85	12 24 14 2 15	23 53 26 59 31	05.01 05.86 49.36 23.49 49.79			67. I 54. 7 66. 9 56. 2 66. 2	
February	1.5		00	04.41 04.41 <b>Iea</b> n of	8 8 all.	+ 1597.09 + 1617.04	+ 0.37 + 0.38	8 8	26 26	37.46 57.42	5 5	09 09	07.20 27.22	3	51	65.3 46.1 <b>51.8</b>	(± <b>1.</b>

Summary of star occultation observations and results for longitude at Teplitz Bay Observatory  $\varphi=81^{\circ}~47'~34.''9~N~~\varphi'=81^{\circ}~44'~19''$ 

# Observations of January 27, 1904, with Berger and Sons' alt-azimuth

Star	γ Tauri	θ¹ Tauri	$ heta^{2}$ Tauri
	h m s	h m s	h m s
Chronometer time emersion	11 29 30.70	14 58 33.40	15 03 19.50
Chronometer correction	+ 4 00 09.17	+ 4 00 09.53	+ 4 00 09.54
Siderial time observation, $\mu$	15 29 39.87	18 58 42.93	19 03 29.04
Mean time observation	19 05 45.82	22 34 14.90	22 39 00.22
Approximate Gr. mean time observation	15 14 02	18 42 31	18 47 16
Star's right ascension, a'	h m s 4 14 20.82	h m s 4 23 06.26	h m s 4 23 11.74
Star's declination, 8'	+15 23 38.4	+15 44 49.3	+ 15 39 23.3
Moon's corrected* right ascension, α, at Gr. mean time	h m s h 4 08 11.32 at 13	h m s h 4 17 35.93 at 17	hm s h 4 17 35.93 at 17
	10 31.98 14	19 57.89 18	19 57.89 18
	12 52.97 15	22 20.17 19	22 20.17 '19
	15 14.29 16	24 42.78 20	24 42.78 20
	17 35.93 17	27 05.71 21	27 05.71 21
36	° ′ ′′ h		
Moon's corrected* declination, δ, at Gr. mean time	/-16 15 45.2 at 13	$+16\ 35\ 19.6\ at\ 17$	+ 16 35 19.6 at 17
,	20 47.0 14	39 59.5 18	39 59.5 18
	25 43.4 15	44 33.7 19	44 33.7 19
	30 34.2 16	49 02.2 20	49 02.2 20
	35 19.6 17	53 24.9 21	53 24.9 21
Moon's horizontal parallax, π,	' '' h	' '' h	' '' h
at Gr. mean time	58 11.0 at 13	58 20.9 at 17	58 20.9 at 17
	13.5 14	23.3 18	23.3 18
	16.0 15	25.8 19	25,8 19
	18.4 16	28.2 20	28.2 20
	20.9 17	30.8 21	30,8 21
Coördinate $x$ at Gr. mean time	<i>h</i> 1.52402 at 13	h - 1.35638 at 17	h — 1.37887 at 17
	- 0.94285 14	— o.77266 18	— o.79516 18
	- 0.361 <b>57</b> 15	- 0.18884 19	— 0.21132
	+ 0.21981 16	+ 0.39506 20	+ 0.37263 20
	+ 0.80117 17	+ 0.97892 21	+ 0.95655 21
Hourly variation in $x$ , $x'$ at Gr.	h	h	., h
mean time	+ 0.58122 at 13	+ 0.58377 at 17	+ 0.58378 at 17
	+ 0.58128 14	+ 0.58382 18	+ 0.58384 18
	+ 0.58135 15	+ 0.58387 19	+ 0.58391 19
	+ 0.58138 16	+ 0.58390 20	+ 0.58395 20
	+ 0.58137 17	+ 0.58388 21	+ 0.58394 21

<sup>\*</sup> See p. 612 for corrections to Nautical Almanac values.

Summary of star occulation observations and results for longitude at Teplitz Bay Observatory—Continued  $\phi = 81^{\circ} 47' 34.''9 \text{ N} \quad \phi' = 81^{\circ} 44' 19''$ 

Observations of January 27, 1904, with Berger and Sons' alt-azimuth

Star	γ Tauri	$ heta^1$ Tauri	θ² Tauri
Coördinate y at Gr. mean time.	h + 0.90113 at 13	h + 0.87001 at 17	h + 0.96324 at 17
	+ 0.98351 14	+ 0.94632 18	+ 1.03945 18
	+ 1.06580 15	+ I.02250 I9	+ 1.11550 19
	+ 1.14799 16	+ 1.09862 20	+ 1.19149 20
	+ 1.23008 17	+ 1.17458 21	- I.26730 2F
Hourly variation in $y$ , $y'$ at Gr. mean time	h + 0.08234 at 13	h + 0.07624 at 17	h + 0.07613 at 17
	+ 0.08229 14	+ 0.07618 18	+ 0.07605 18
	+ 0.08224 15	+ 0.07616 19	+ 0.07602 19
	+ 0.08219 16	+ 0.07612 20	+ 0.07599 20
	+ 0.08214 17	+ 0.07604 21	+ 0.07590 21
	0 / //	0 / //	0 / //
$\mu$ in arc	232 39 58.05	284 40 43.95	285 52 15.60
$\mu - a' \dots \dots \dots$	169 04 45.75	218 54 10.05	220 04 19.50
B	98 06 49.6	96 26 48.1	96 20 24.3
ξ	+ 0.02713	— o.08994	— 0.09220
$\eta$	+ 0.98834	+ 0.97962	+ 0.97937
To assumed at	h 15.25	h 18.7	h 18.8
x <sub>o</sub>	- 0.21622	— 0 <b>.363</b> 98	- 0.32808
<i>y</i> <sub>0</sub>	+ 1.08634	+ 0.99964	+ 1.10029
x <sub>0</sub> '	+ 0.58136	+ 0.58386	+ 0.58390
y <sub>o</sub> '	+ 0.08223	+ 0.07617	+ 0.07603
	0 / //	0 / //	0 / //
$M \dots \dots$	291 56 06.9	274 10 42.0	297 08 28.3
$N.\dots$	81 56 57.3	82 34 02.0	82 34 52.3
Ψ	208 44 54.3	191 42 11.1	213 28 15.2
T	h m s	h m s 18 42 00.00	h m s 18 48 00.00
Ciderial time mean moon	20 21 23.74	20 21 23.74	20 21 23.74
Siderial time mean moon	+ 02 20.31	+ 03 04.32	+ 03 05.30
Reduction			
$\mu_0$	11 38 54.05	15 06 28.06	15 12 29.04
μ	15 29 39.87	18 58 42.93	19 03 29.04
$\mu_{0}$ — $\mu_{.}$	— 3 50 45.82	<b>— 3 52 14.87</b>	- 3 51 00.00
au	— OI 12.44	+ 00 13.33	<u> </u>
Resulting longitude east of Greenwich	3 51 58.3	3 52 or.5	3 51 56.00
Mean value of three determina-		h m s s s 3 51 58.6 (± 1.1)	

#### AZIMUTH

The star transit observations were also used in determining azimuths. The results are as follows:

		Ho	rizoı	ıtal ci	ircle			1	rrectioneasui	ed				
Local astro- nomical date	Vernier	ing:	ier i s bei ghtii n hu	ng	ing si	ier gs af ghti n hu	ng	tio	gle acc f colling n, azing and lever eviatio	na- nuth, /el	Resulti	Resulting azim		
1903-1904		0	,	//	0	,	//		,	//	0	,	"	
December 2	I	84 -	58	28	28	59	52				·			
	II		60	00		60	00		o	18	S 304	10	20 W	
	111		59	04		60	36				~ 3-4		20	
	IV		59	00		60	12	)						
December 18	I	84	57	52	29	00	28	)						
	II		57	40		00	16		1 -		5 454	0.5	10 337	
	III		56	52		00	00		+ 1	09	5 304	OI	40 W	
	IV		57	12		00	ó8	]						
January 27	1	84	59	36	29	00	00	1						
	11		59	48		00	20		I	22	6 104	0.5	4 4 337	
	III		60	08		00	52	}	1	22	S 304	10	44 W	
	IV		60	28		00	16			•				

Azimuth of magnetic hut from astronomical observatory

After the meridian mark at Cape Auk was established, February 12, 1904, numerous measurements of the angle from it to the magnetic hut were made during the year 1904. The mean value from these observations of the included angle was 55° 58′ 28″. From the observations of the lower and upper culminations of the circumpolars © Ursæ Minoris and 19 H Camel, respectively, on February 12, 1904, the correction to this angle on account of collimation, azimuth, and inclination of axis deviations was — 0.″1. Hence the azimuth of magnetic hut from astronomic observatory by reference to the meridian mark on Cape Auk is S 304° or 32″ W, a value agreeing very well with those obtained above. The resulting mean value adopted is S 304° 01′ 34″ W.

#### REMARKS

One of the difficulties encountered in observing at low temperatures was caused by the accumulation, due to the condensation from the breath and the proximity of a warm body, of small particles of frost over the different parts of the instrument. It is thought that the irregular readings of the striding level are due more to the presence of ice particles on the axis of the telescope than to any change in the inclination of the axis itself. This ice, which was being continually deposited, was removed as far as possible by dusting the pivots at each leveling and by wiping them and the wyes at the beginning and middle of each time set (when the

<sup>\*</sup>As obtained from the least-square reductions.

telescope was raised out of its standards). Yet small pieces of ice or snow were bound to adhere to the pivots, and these could not be removed except by pressure sufficient to disturb the stability of the instrument. Condensation also collected on the object glass and eye piece, necessitating frequent cleaning. For the same reason as given above this could not be removed from the object glass except when the telescope was lifted out of the wyes; hence many fifth and sixth magnitude stars were lost in observing.

The strain to the body attendant on observing any length of time in low temperatures, especially if the surrounding air is at all in motion, necessitated shortening the period of time sets so far as possible. This accounts for many incomplete transits, stars coming too close together to observe them on all threads.

Upon several occasions fog accumulated in the observatory to such an extent as to effectually stop further observation (this with the shutters open). At other times, during temperatures between  $-40^{\circ}$  and  $-50^{\circ}$  Fahrenheit, the kerosene lamp refused to burn, and the siderial hack watch stopped soon after being exposed to the air.

### ALGER ISLAND STATION

#### OBSERVATORY

When the retreat south was made in April of 1905, the Repsold Circle was taken from its pier at Teplitz Bay, packed in its case, and, with the chronometers, transported by dog sledges 100 miles to Alger Island. At this station the observing hut was some 2.4 meters square and 1.8 meter high, with a flat roof, and built of wire netting stretched tightly over a wood frame and covered with a heavy roofing material called "rubberoid." Wall and roof shutters were placed in the plane of the meridian, and two trap-doors hung in the east and west walls for observations out of the meridian. The pier at this point was made of an iron gasoline tank filled with sand and sunk about 0.3 meter in the frozen ground. So far as could be noted this seemed quite stable. The general location of the observing hut with reference to the balance of the camp is shown by the sketch map of figure 21 of Section A.

The south meridian mark was a tripod of oars firmly lashed together, the legs being embedded in stones, on a level outcrop of basalt from the glacier of McClintock Island. The north mark was a tripod of light iron rods situated on the spur of the mountain immediately north of the station.

The chronometers were kept in a box inside an old hydrogen-generating tank about 1.2 meter in diameter and 1.5 meter high, located 6 meters northwest of the observatory. This tank was banked up with sand and a small pyramid tent pitched over it. A manhole in the top permitted access to the interior of the tank. This arrangement gave very satisfactory temperature results in the chronometer box, the average daily range during the period May 1 to July 30, 1905, being only about 1.2° centigrade. The siderial chronometer was connected with a sounder in the observatory.

# OBSERVATIONS AT ALGER ISLAND

Solar observations only were made at this station during the summer of 1905. The continuous daylight prohibited making trustworthy determinations for longitude. A value of longitude depending upon a rough survey beginning at Teplitz Bay Observatory and ending at Cape Flora, resting at the latter place on the determinations made by the Italian Expedition, of 3<sup>h</sup> 44<sup>m</sup> 22<sup>s</sup> east of Greenwich has been adopted.

TIME
Time observations at Alger Island

Greenwich astronom- ical date	Chronom- eter No.		Mean rono tim	meter	readin		zenith orrected evel	Tempera- ture—Fahr.	Aneroid barometer	A. M. or P. M.	No. of point- ings
1905	-	h	111	S	0	,	"	0	In.		
June 26.7	1809	17	03	01.50	60	21	42.65	34.7	30.03	A. M.	3
27.0	1809	0	16	46.75	62	10	32.50	36.7	30.09	P. M.	6
28.0	1809	0	24	22.80	62	29	40.60	28.7	30.29	P. M.	6
28.7	1809	15	38	10.50	63	35	26.30	34.0	30.40	A. M.	6
29.0	1809	0	20	11.35	62	22	18.87	41.0	30.46	P. M.	6
July 2.0	1809	o	47	45.65	63	36	11.30	33.2	30.43	P. M.	4
7.0	1809	0	00	57.25	62	12	20.83	34.0	30.36	P. M.	6
10.0	1809	o	06	36.35	62	43	35.73	32.0	30.42	P. M.	6
10.7	1764	3	25	55.00	62	51	06.65	36.0	30.41	A. M.	6
11.0	1809	0	07	20.17	62	52	24.23	36.9	30.35	P. M.	6
15.7	1764	3	15	35.75	64	42	27.88	33.8	30.35	A. M.	6
16.7	1764	2	54	12.27	65	52	19.70	31.0	30.40	A. M.	4
18.7	1764	3	05	29.60	66	04	25.95	35.5	30.34	A. M.	5
19.7	1764	3	57	06.17	64	24	50.58	34.2	30.34	A. M.	6
20.0	1764	12	05	47.27	65	o <b>6</b>	37.95	34.7	30.38	P. M.	6
20.7	1764	3	11	36.72	66	30	23.52	35.7	30.38	A. M.	6
23.7	1764	3	32	50.13	66	42	48.8o	35.9	30.35	A. M.	6
24.0	1764	11	50	51.89	64	44	38.90	32.0	30.34	Р. М.	6
26.0	1764	12	22	48.63	66	03	17.77	36.2	30.36	P. M.	6
26.7	1764	3	41	49.62	67	27	14.27	32.2	30.42	A. M.	6
27.7	1764	3	39	49.89	67	54	38.83	35.3	30.37	A. M.	6
28.0	1764	12	45	37.66	67	04	23.22	35.0	30.35	Р. М.	6

Time observations at Alger Island-Continued

Greenwich astronom- ical date		Mean of observed times, corresponding to mean zenith distances			Time deduced from observed alti- tudes			Co		tions of t ocal side	0	Remarks		
								No. 1809			No. 1764			
		h	m	S	h	m 51	s 12.67	h +3	m 48	s 11.77	h	m	s	
		17	03	01.50	20	•	56.56	13	48	06.83				
	27.0	U	16	49.73	4	04 12	29.51		48	04.88		••		
	28.0	0		24.63	4 19	26	13.0I		48	05.96				
	28.7	15	38	07.05	1	υ8	15.08	1	48	00.84	٠.,	••		
T1	29.0	0	20	14.24 47.16	4		48.26		48	01.10		••		
July		0	47	• • •	4	35 48	50.49		47	48.82		••		Sun's edge "jumping"
	7.0	0	oI	01.67	3		21.30		47	42.11		••		ban's eage jamping
	10.0	0	06	39.19	3	54 28	25.82			,	+0	02	34.91	Sun "boiling" moderately
	10.7	3	25	50.91	3				47	41.44	,			"Boiling" violently
	0.11	0	07	23.27	3	55	04.71		47	41.44	••	02	42.64	Good definition
	15.7	3	15	32.62	3	18	15.26		• •			02	42.49	Clouds
	16.7	2	54	10.11	2	56 - 8	52.60		• •				49.16	Drifting
	18.7	3	05	28.72	3	08	17.88		• •			02	51.21	Good
	19.7	3	57	03.08	3	59	54.29		• •				51.75	Good
	20.0	12	05	49.57	12	08	41.32		• •			02	53.86	Fair
	20.7	3	II	35.44	3	14	29.30		• •	• • • • •		02		Fair
	23.7	3	32	48.53	3	35	50.76		• •	* * * * * .		03	02.23	Good
	24.0	11	50	55.11	11	53	57.43		• •			03	02.32	
	26.0	12		.52.58	12	26	00.39		• •	• • • • •		03	07.81	Very good
	26.7	3	41	48.37	3	44	57.46		• •	• • • • •		03	09.09	Good
	27.7	3	49	49.00	3	42	59.28		• •	• • • • • •		03	10.28	Good
	28.0	12	45	39.07	12	48	53.50			•••••	<u> </u>	03	14.43	Good

### LATITUDE

Latitude was determined at Alger Island by the method of circummeridian observations of the Sun, the reductions being carried out in the usual method.\* The results are summarized in the following tabulation:

Summary of latitude observations at Alger Island

Greenwich a nomica date and ren	.1	Obs'd limb	Chronom No. 1764 time	Observed zenith distance	Refrac- tion and parallax	Am	Bn	Zenith distances reduced to meridian and Sun's center	Resulting lati- tude	
1905			h in s	0 / //	"	"	"	0 / //	0 / //	
June 27	.8	O	19 49 50	56 48 49.4	+ 85.8	- 223 4	+o. ı	57 02 17.6	1	
Barom.: 30.	.27 In.	$\odot$	57 40	78 26.1	+ 87.5	105.1		22.8		
Therm.: + 31	.ºo F₊	0	20 02 05	77 43.7	+ 87.6	- 57.8		27.8	!	
		0	05 18	77 16.9	+ 87.6	— 32 <b>2</b>		26.6	1	
		Ō	10 58	45 10.5	+ 85.5	- 5.2		16.5		
		Ō	16 51	45 09.0	+ 85.5	— I.6		18.6	80 21 19.1 N	
		Ō	20 47	45 20.7	+ 85.5	13.1		18.8	80 21 19.1 N	
		<u>O</u>	26 21	77 33.9	+ 87 5	- 48 5		27.2		
		<u>O</u>	30 14	78 11.6	+ 87.5	— 86.3		27.0		
		<u>O</u>	32 58	78 44.9	+ 87.5	-119.5		27.2		
		O	38 39	48 43.1	+ 85.7	-205.6	+o. 1	28.9		
		O	43 30	50 10.5	+ 85.7	- 297.4	+o.1	24.5	J	
June 28	.8	$\odot$	19 49 30	57 23 25.4	+ 87.3	-233.0	+0.1	57 04 74.1	)	
Barom.: 30	.44 In.	$\odot$	53 09	22 <b>2</b> 4. I	+ 87.2	- 171.0		74.6	1	
Therm.: + 36	,°6 F.	$\odot$	56 07	21 41.4	+ 87.2	<b>—127.6</b>		75-3		
		•	59 11	21 01.9	+ 87.1	- 89.5		73.8	İ	
		. 0	20 02 31	20 32.4	+ 87.1	<b>—</b> 55.6		78.2		
		<u>O</u>	o6 <b>o</b> 7	20 06.6	+ 87.1	— 28.I		79.9		
		O	11 45	56 47 52 4	+ 85.1	— 3·7		59.5	80 21 18 9 N	
		ΙO	15 45	47 50.9	+ 85.1	- 0.2		61.5		
		O	18 37	47 50.4	+ 85.1	- 4.8		56.4		
		O	22 57	48 15.2	+ 85.1	23.0		63.0		
		O	26 22	48 40.4	+ 85.2	46.9		64.4		
		O	29 49	49 09.3	+ 85.2	<b>—</b> 79.4		60.8	J	
July 9	.8	0	19 53 40	58 19 43.5	+ 91.0	— 200. I	+0.1	58 02 08 8	)	
Barom.; 30	44 In.	$\odot$	56 48	18 51.9	+ 91.0	<b>—</b> 150.6	!	06 6	İ	
Therm.: + 34	.°9 F.	<u>O</u>	59 35	18 09.3	+ 90.9	-112.5		02.0		
		$\odot$	20 02 30	17 38 0	+ 90.9	- 78.5		04.7	İ	
		. 0	05 17	17 16.2	+ 90.8	<b>—</b> 51.8		09 5		
		0	08 03	16 54.1	+ 90.8	- 30.7		08.5		
		O		57 45 07.4	1	- 5.6			80 21 20.7 N	
		$\odot$	24 33	45 17.6	+ 88.8	— 18.8	1	13.3		
		<u></u>	27 06			— 34·4		1		
		0	29 27	45 55.2	+ 88.9	- 52.9		16.9		
		O	32 15	46 28.2	+ 89 o	— 8о.1		22.8		
		$\odot$	34 58	46 55.3	+ 89.0	111.8		18.2	j	

<sup>\*</sup>Spherical and practical astronomy, by William Chauvenet. Philadelphia, 1885, 5th edition. Pp. 233-253.

Summary of latitude observations at Alger Island-Continued

Greenwich astro- nomical date and remarks	Obs'd limb		nom. 1764 ne	:	zeni		tion	frac- 1 and allax	Am	Bn	re	tand duc ierio	ed to dian Sun's	Res	ultin tud	g lati- e
1905		h 1	n s	0	,	"		"	"	"	٥	,	"	٥	,	//
July 15.8	Ō	7 1	o <b>2</b> 8	58	39	47.6	+	92.4	-250.9	+0.1	58	52	55.2	j		
Barom.: 30.35 In.	O	1	4 02		38	45-3	+	92.4	<b>— 188.3</b>	+0.1			55.5	-		
Therm.: + 33.°0 F.	O	1	6 57		38	02.2	+	92.3	143.8				56.7			
	O	2	9 58		37	21.9	+	92.3	104.0		!		56,2			
	O	:	23 03	1	36	49.4	+	92.2	<b>— 70.0</b>		,		57.6			
	O	:	25 38		36	29 5	+	92,2	46.6		Ì		61.1	80	2 I	23.1 N
	Q	] 4	12 09		67	43 3	+	94.2	- 9.3		:		82.2			
	<u></u>		13 14		67	58.4	+	94.2	- 13.6		1		93.0			
	0	,	50 44		68	39.0	+	94.3	- 66.5				80.0	1		
	<u></u>		58 44		70	16.6	+	94.4	167.1		1		78.o			
	0		52 39		71	2S 6	+	94.5	-232.4	1.0+			84.8	j		
July 18.3	0	19	27 48	78	44	15.7	+	289.2	+115.1		78	35	13.8	   1		
(lower culmination)		-	, . 31 19			59.8	+	289.4	+ 76.8	1	1	•	19.8			
Barom: 30.41 In.		1	34 51			29.2	+	289.6	+ 46.2				18.8			
Therm.: $+ 34.^{\circ}6$ F.	O O	I	38 05	,		52.1		289.8	+ 24.9	4			20.6			
	$\overline{\odot}$	1	40 36			06.7	1	290.0	+ 129				23 4			
	Ō		54 42		14	55-9	+	277.0	+ 18.5	·			37.6	80	2 I	23.7 N
	Ō		58 14	1	14	44 0	]	276.9			í		46.4			
	Ō		- 60 58	i	14	8,12	-	276.7	+ 60.8		-		45.5			
	Ō		64 04		13	54.6	+	276.5	+ 90.6	1	1		47.9	l I		
	Ō		67 45		-	14.6	+	276.4	+133.6	· · · · · ·			50.8	ij		
July 20.8	O	7	31 37	59	31	48.5	+	95-3	- 227.2	+0.1	59	45	23.0	: 1		
Barom.: 30.35 In.	1		35 30	- 1	30	48.9	1	95.3	<b>—</b> 163.0				27.5			
Therm.: + 34.°9 F.	ō		3 <b>9</b> 29		29	54.9	+	95.2	<b>— 108.2</b>				28.2			
10.	Ō		45 30	1	28	58.2		95.2	- 46.6				33.1			
	Ō		48 o6		28	39.0	+	95.1	- 27 9				32.5			
	Ō		50 I.5		28	28.0		95.1	— 16.1	1			33.3	80	21	20.5 N
	l $\odot$		oi 55		60	05.1	1 '	97.3	8.7	1			47.4			-
	$\overline{\odot}$	1	05 22	- 1		22.3		97.3	- 25.0				48.3			
	$\overline{\odot}$	ł	12 01	1		12.3		97 4	— 8o.3				43. I			
	$\overline{\circ}$		14 57	1		51.4		97.4	- 114.5	1	1		48.0			
	$\overline{\Omega}$	1	17 31		62	26 6	1	97.5	- 149.6				48 2			

, 4 p

### AZIMUTH

The azimuth of the south mark at Alger Island was determined during the summer of 1905 by observations of the Sun's transits. The following tabulation shows the results obtained from the ten determinations made:

Summary of south mark azimuth determinations at Alger Island

Green- wich astro- nomical date	Circle	Mean chro- nometer time on both limbs	Mean hori- zontal circle reading both limbs	Mean level readings	Mark readings	Local side- rial time mean set	Computed Sun's azi- muth	Correction account level	Circle reading south meridian		ultin nutl nark	1
1905		h m s	0 / //	d	0 / //	h m s	0 / //	//	0 / //	0	,	
July 15.7	L, R	3 34 37.68 3 47 28.93	306 50 57 310 08 12	-22.6 + 2.3	11 02 50 11 02 48	} 3 43 45.90	62 33 53.4	+ 5.0	11 03 33	359	59	16
18.7	R L	3 31 14.66 3 54 19.74	303 03 10 308 54 49	+31.5 —11.6	II 02 45 II 02 43	} 3 45 36.40	65 05 05.6	- 4.7	11 04 <b>0</b> 1	359	58	43
19.7	R L	3 27 24.11 3 36 52.82	311 06 27 313 30 11	$^{+30.7}_{-5.8}$	II 02 43 II 02 45	} 3 34 59.69	68 45 28.6	- 5.8	11 03 42	359	59	оз
20.0	R L	II 2I 17.20 II 3I 53.68	66 23 31 69 07 06	- 0.8 - 7.1	11 02 45 11 02 46	} 11 29 27.14	56 41 51.6	+ 2.0	11 03 24	359	59	21
20.0	L R	II 41 09.10 II 50 17.20	71 29 32 73 49 30	-28.3 + 6.2	11 02 45 11 02 46	} 11 48 34.85	6r 35 53.1	+ 5.3	11 03 33	359	59	12
20.7	L R	3 32 54.72 3 42 00.61	301 32 02 303 49 53	- 7.9 +11.0	11 02 56 11 02 49	} 3 40 21.57	68 22 43.4	- o.7	11 03 41	359	59	11
23.7	L R	3 46 52.03 3 58 05.23	302 IO 21 305 00 52	-40.8 0.6	11 02 45 11 02 37	} 3 55 30.93	67 27 46.9	+ 9.2	11 03 32	359	59	09
24.0	L, R	11 19 50.86 11 29 48.75	61 49 18 64 23 54	9.8 o.o	11 02 52 11 02 46	} 11 27 52.11	52 03 07.2	+ 2.4	11 03 26	359	59	23
26.0	L R	11 49 11.24 12 03 05.58	67 17 42 70 51 19	- 7.4 0.4	11 02 49 11 02 39	} 11 59 16.21	58 OI 23.5	+ 1.8	11 03 05	359	59	39
28.0	R L	12 20 23.50 12 29 12.36	73 12 49 75 26 12	- 0.2 -13.2		} 12 28 02.33	63 16 27.5	+ 2.9	11 03 00	359	59	43
Me	an azir	nuth of all det	erminations	• • • • • • • • • •	• • • • • • • • •	• • • • • • • • • • • • • • • • • • • •		• • • • • • • • •		359	59	16

## SECTION F

# MAP CONSTRUCTION

AND

SURVEY WORK

BY

RUSSELL W. PORTER
First Assistant Scientist of the Expedition

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# CONSTRUCTION OF MAPS

#### REMARKS ON EXPLORATORY SURVEYS

The maps of Franz Josef Archipelago are based on exploratory surveys made by the Ziegler Polar Expedition and data obtained from the maps of Payer, Leigh Smith, Jackson, Nansen, Wellman, and the Duke of Abruzzi.

The exploratory surveys extend to all the islands between the 50th and 60th meridians and consist of a plane-table traverse, run in 1904 from Camp Abruzzi, through Kane Lodge and Camp Ziegler, to Elmwood. Additional information was obtained from an earlier trip made the same year to Kane Lodge and to Nansen's hut and further plane-table work in 1905 in the region north of Markham Sound.

The longitude of the astronomic observatory at Camp Abruzzi was obtained by the methods of moon-star culminations and star occultations. Twenty-two moon-culmination and three star-occultation observations were made during the winter of 1903–4. The resulting value,  $3^h$   $51^m$  52. 6 (57° 58′ 09″) east of Greenwich, is the one adopted in the map construction. Determinations resting on the chronometer alone were not used on account of the large variations in rate, supposed at the time to be due to jars caused by "bucking ice". Twenty-six out of the fifty-four stations occupied were strengthened by latitude, azimuth, and time observations made with a Berger and Sons' especially constructed 4-inch theodolite or alt-azimuth (see Section E for description). Two base lines were included, one at Camp Abruzzi, the other at Kane Lodge.

The longitudes of Camp Ziegler, Harmsworth House (Cape Tegetthoff), and Elmwood (Cape Flora), as determined by this traverse and referred to Camp Abruzzi, are:

```
Camp Ziegler (Alger Island) . . . 56 08 east of Greenwich.

Harmsworth House (Cape Tegetthoff) . 57 47 east of Greenwich.

Elmwood (Cape Flora) . . . . 49 59 east of Greenwich.
```

These values were adopted in the new map and required Jackson's work to be shifted 3.3 nautical miles to the east, Payer's 3.6 to the west, and Wellman's 0.5 to the west.

Heights are given in feet. Except in one or two instances, the brows of the cliffs are the points measured. With the exception of Stoliczka Island (by aneroid), all heights have been found by triangulation.

During the traverse of 1904 the party went into camp at Rubini Rock (Hooker Island) for ten days during the last of June. The surrounding region seemed peculiarly well adapted for offering a safe harbor to any ship intending to pass the winter in the Archipelago. As such a harbor has never been found heretofore in Franz Josef Archipelago, where a ship can be sure of getting out the next year, a detailed map was therefore made of an area some 3 miles square (see figure 1).

### Nomenclature of Geographical Features

In the nomenclature of the different geographical features, certain changes have been made, as follows:

Backs Channel has been retained for that body of water separating Karl Alexander and Jackson Islands.

De Long Fjord (Nansen) proved to be a bay and not a channel separating Leigh Smith and Frederick Jackson Islands as Nansen supposed. The name of Jackson has been retained to the island which this bay indents.

Hoffman Island was looked for on several occasions at a distance of some 20 miles under favorable atmospheric conditions but never was seen. It may be a low, snow-covered island and has been retained in the position ascribed by Wellman. Nansen dropped it from his preliminary map but Wellman's map shows his route so close to it as to preclude any reasonable doubt of its existence.

Freeden Island (Payer) has been retained on the map as the most southern island of Nansen's "Hvidtenland" because Payer saw an island in this neighborhood which he called Freeden Island. The identity of the island that Payer saw is a question that probably cannot be settled as it appeared in a direction where some islands are now known to exist. The name he gave should appear on some one of these and, as Nansen has suggested, one island of this group might very probably be the one Payer saw.

Booth, Rhodes, and Brown Fjords and the Ward Bay of Jackson have all been found to be channels running through to Austria Sound and separating Payer's Zichey Land into several islands.

The group of small islands indicated on Wellman's map as lying south of Markham Sound and between Hooker and McClintock Islands have all been identified, with two exceptions, viz.: Simon Newcomb Islands and Willis Moore Islands. When Jackson mapped this region he passed through Hamilton Channel in thick weather without seeing the channel which divides the land west of Hamilton Channel into two islands. We have placed Jackson's Bromwich on the northern of these two islands and Wellman's Prichett on the southern.

La Ronciere Peninsula, Cape Berghaus, and Cape Littrow, all of Payer, were found by Wellman to be islands and were given new names. The original proper names of Payer have been retained on the ground of priority.

Richthofen Peak, seen by Payer from Cape Brunn, has been located on Alger Island and not where Jackson places it. Here the Expedition found a peak, or spur, some 1,400 feet high dominating the entire neighborhood, as Payer asserts. His wood cut illustrating the peak and his description of it convinced us that the high mountain on Alger Island, and that only, could satisfy his conditions.

The Expedition concurs with the Italians that the four islands indicated by Wellman as lying northeast of Rudolph Island do not exist. The locality was crossed twice and no land found.

The word "land" has been dropped entirely as being misguiding, now that the Archipelago is known to consist only of several comparatively small islands.

In the map construction the last name only of proper names given to geographical features has been retained for the sake of brevity and clearness. The results of the survey work of the Expedition have all been made use of in constructing Maps B and C.

The map showing the Arctic regions (Map A) has been compiled by Mr. Gilbert H. Grosvenor, Editor of the National Geographic Magazine. As will be readily noted, he has entered upon the same practically all data secured in the Arctic through the year 1906. The Expedition is under great obligation to him for the thorough execution of the laborious work of compilation of data and corrections necessary in the construction of this map.

#### RECONNAISSANCE OF RUBINI ROCK AND VICINITY

The traverse party crossed the ice-cap of Hooker Island the morning of June 21, 1904, and coasted down the glacier slopes in a zigzag course to Rubini Rock. The surroundings presented a far greater diversity of character as well as more vegetable and animal life than we had ever seen before in these Islands.

A good sized bay some three miles across from north to south was found here to indent the island from the British Channel. At the bottom of this bay a headland projected from the ice-cap, continuing as a low spit of land and terminating in a towering rock found later to rise almost sheer from the surface of the bay to a height of 587 feet. Jackson mistook this rock for an island which error could easily be made in the spring when he visited it. This tongue of land, on which Rubini Rock is located, divides the bay into two smaller ones of nearly equal size and into which descend two glaciers from the ice-cap. The more northerly glacier showed almost no crevassing and had absolutely no face, its surface running imperceptibly into that of the bay ice.

The other glacier, however, immediately south of our camp, was the highly crevassed glacier (No. II on map) and showed signs of more activity than is usually met with among these Islands. Along its landward margin a lateral moraine had been formed in recent times; the detritus was fresh; the rocks angular and sharp and embedded in sand and clay. There were no signs of lichens. Between the moraine and the talus back of it flowed a good sized stream which expanded into two ponds some hundred feet wide before debouching into the bay.

The winter's ice was still in the two bays, its edge on June 20 being as indicated on the map. Outside of this line, and almost surrounding Keltie Island, lay open water between the headlands of the bay in which the broken floes moved back and forth with the tide. There were no bergs floating in the bay though we were constantly expecting them to be discharged from the larger glacier. An old beach raised 28 feet above the sea level was found on the spit of land uniting Rubini Rock with the island. On this beach a base line 600 feet long was measured twice, signals erected on the prominent headlands, and the triangulation extended with the theodolite. With several points thus well determined the plane table was used to complete the map.

The inner side only of Rubini Rock retained a talus. After some search one spot was discovered where access could be had to the top. The table top of the rock towered a full hundred feet by measurement above the brows of the surrounding headlands. It was composed of sharp, angular blocks of basalt covered with a dense growth of spongy, black lichens resembling very coarse horsehair. This growth, of which there certainly was enough to last an expedition several years as fuel, was found to burn freely. Imbedded in these lichens was found part of a shed antler of an Arctic reindeer; he must have reached this plateau by some way other than the one we used.

The table top dipped toward the southwest like an amphitheater and then dropped vertically into the water. Under the southeastern cliffs the columnar structure of the basalt was very marked. And here thousands of little auks, loons, and sea gulls made their home. The slope of the talus under this rookery was covered with a luxuriant growth of grass whose roots were imbedded in ice and frozen earth.

Where the headlands and nunataks protruded from the ice-sheet several acres of exposed table land were to be seen entirely free of ice and snow. They differ in elevation from 370 to 720 feet, but all are remarkably level; the basalt is weathered and crumbled to a very coarse sand or gravel. The writer examined the rock exposures of this vicinity for glacial markings and striæ, but found none.

By the time the party was ready to leave on July 1 the accumulation of winter's snow had disappeared from the glaciers leaving their hard, blue surfaces exposed. A lake of some size had formed in one of the sags of Glacier II some 2,500 feet back from its face, and streams from the melting ice were furrowing the surface in every direction. On June 25 three points along the face of Glacier II were selected (a, b, and c) of figure 1) and their angular distances from a fixed mark on Nunatak B were determined on four different dates, the theodolite being set up at Station B. These measurements resulted as follows:

Local		Horizontal circle							
astronomical date	Mer. mark	<i>a</i> , dist. 2,500 ft.	<i>b</i> , dist. 3,000 ft.	c, dist. 4,600 ft.					
1904 h. June 25 18.4	0 00.0	° ′ 31 7.4	o / 40 29.2	° / 40 16.4					
June 26 22.9	0.00.0	8.6	31.4	17.8					
June 28 1.0	0.00.0	0.01	32.6	18.4					
July 1 21.7	0.00.0	14.5	39.4	21.0					

Assuming the movement to be approximately normal to the lines Ba, Bb, Bc, the above data gives the following daily rates of flow for the intervals observed:

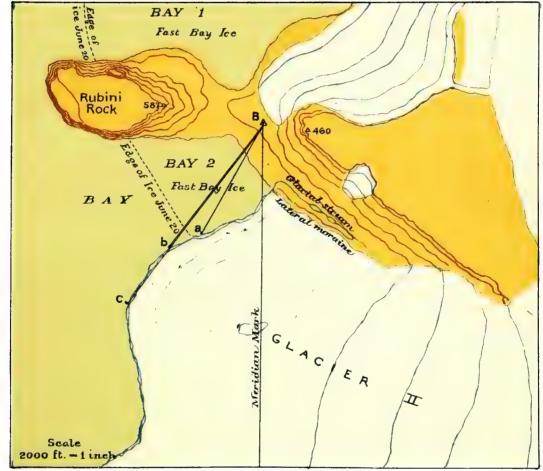
	d	h	а	Ь	C
ıst interval	I	4.5	0.64 ft.	1.00 ft.	1.45 ft.
2d interval	I	2.I	o.88	1.00	0.91
3d interval	3	20.7	0.70	0.75	1.33

and for the entire interval of 6 days 3.3 hours a mean daily movement of 0.74 foot, 0.92 foot, 1.23 foot for the three points selected. In other words, the face of this glacier was advancing into the bay at the rate of about a foot a day.

This result, meager enough, in that it represents an isolated case of a single glacier during a short interval of time is valuable as being the only definite information, so far as known, of ice movement in Franz Josef Archipelago. (Being midsummer, with the temperature between +32 and +42 degrees Fahrenheit, the yearly movement was probably at its maximum.)

For future reference a substantial stone mark was erected on the moraine in line with the glacier face and the cliff on the farther side. Any subsequent change can therefore be readily ascertained by a party visiting this locality again.

Although the ice still remained in the small bays on July 1, it was disintegrating rapidly; a large water hole around Dundee Point had increased in size until it almost joined the open water in Mellenius Sound, while a few days later the ice broke up in De Bruyne Sound.



SKETCH MAP OF RUBINI ROCK AND BAY

A B GRAHAM CO.LITH WASH D.C.

